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The creation of a database on a micro-computer network

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NAVAL POSTGRADUATE SCHOOL
Monterey, California

THESIS

THE CREATION OF A CENTRAL DATABASE ON A MICROCOMPUTER NETWORK

by

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and
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March, 1984

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This thesis discusses the design and development of a central database on a network of microcomputers. It provides an overview of the methodology utilized in creating the system, along with the problems associated with a central database. The thesis includes the source listings for the creation of the system and a discussion of the difficulties of controlling contention within the networked database environment.

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The Creation of a Central Database on a Microcomputer Network

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ABSTRACT

This thesis discusses the design and development of a central database on a network of microcomputers. It provides an overview of the methodology utilized in creating the system, along with the problems associated with a central database. The thesis includes the source listings for the creation of the system and a discussion of the difficulties of controlling contention within the networked database environment.

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I. INTRODUCTION

Current economic trends have brought about an increased awareness of the need for productivity gains in the work-place. Like all facets of business, government is finding increased pressures to reduce expenditures and still provide service to the people. To meet the challenges of reducing costs and maintaining service levels, government managers are looking toward office automation and computerization to increase individual productivity. The Navy Fleet Material Support Office (FMSC), like most Government Agencies, is doing its part to improve productivity.

The Defective Material Section of FMSO (Code 91423) is designated as the overall monitor for the quality deficiency management information reporting system. A Thesis entitled _A System Analysis and Design For Updating the Internal Tracking of the Quality Deficiency Reporting System at the Navy's Fleet Material Support Office_ by Michael D. Carriger recommended the development of a prototype network of inexpensive microcomputers and the creation of a Central Database System. This prototype system will demonstrate the feasibility of automating the QDR Processing Procedures, and will allow the evaluation of processing with automated techniques. Additionally, the prototype will provide the basic design for future QDR Systems and its interaction with users. [Ref. 1]

Current microcomputer technology has allowed very powerful systems to be created at relatively low costs. Microprocessors with over 512,000 characters of memory can process over 500,000 instructions per second. Secondary storage units can access over 35 million characters of data at the rate of 5 million bits per second. Relational

Database systems allow microcomputers to create, update, and manage large databases of information at relatively low costs.

The purpose of this Thesis is to develop a Prototype Database Management Information System for use at the Defective Material Section of FMSO (Code 91423). This system will utilize current microcomputer technology and off-the-shelf hardware and software. Application programs will be generated with a high level database manipulation language. For this application, dBASE II (by Ashton-Tate), IBM-PC microcomputers, PCnet (by Orchid Technology), and 20 MB hard disk storage devices (by Tallgrass Technology) are utilized to create the Management Information System. This hardware and software was selected because: 1) it had already been evaluated and was in use at other sections of FMSO; 2) it appeared that it could meet the processing requirements for the QDR System; 3) it could be easily obtained with minimal cost to the project; and 4) it could be incorporated into both the short term and long term processing goals for FMSO [Ref. 1].

The major areas of concern for the project center around: 1) contention caused by multiple users accessing the same Data Base Files over a microcomputer network; 2) Security logon protection for the system; 3) Flexibility to respond to ad hoc information requests; and 4) providing meaningful system dialog for untrained computer users.

II. METHODOLOGY

The development of the Quality Deficiency Reporting (QDR) System was based on modern software engineering and design principles. Data flow diagrams, structure charts, and a high level programming language aided in the creation of the system. Using top-down design to provide a logical basis for development, the software creation involved: 1) studying and understanding the QDR process, 2) identifying at least one method of solving the problem, 3) creating data flow diagrams to show the gross data transformations, 4) using the data flow diagrams to construct a structure chart, and 5) describing each abstraction used in the solution in a manner that lends itself to eventual coding in a high level language. [Ref. 2]

The initial study of the QDR System was based on Michael D. Carriger's thesis work. This provided much of the background information that was necessary to formulate a possible solution. Based on the operational environment and the users' level of computer familiarity, it was decided that a menu driven system be created. This would provide an easy to understand interface for the unfamiliar user. Data flow diagrams were generated to identify the transformation of data from input to output. This provided a pictorial representation of the data used by the QDR System and established a means of identifying the changes that took place during the life of a QDR Case (See figure 2.1 and 2.2).

The data flow diagrams provided the basis for creating the system's hierarchical structure. By reviewing the basic transformations performed by the system, it became apparent that there are three main activities necessary for maintaining the Central Database. These basic activities

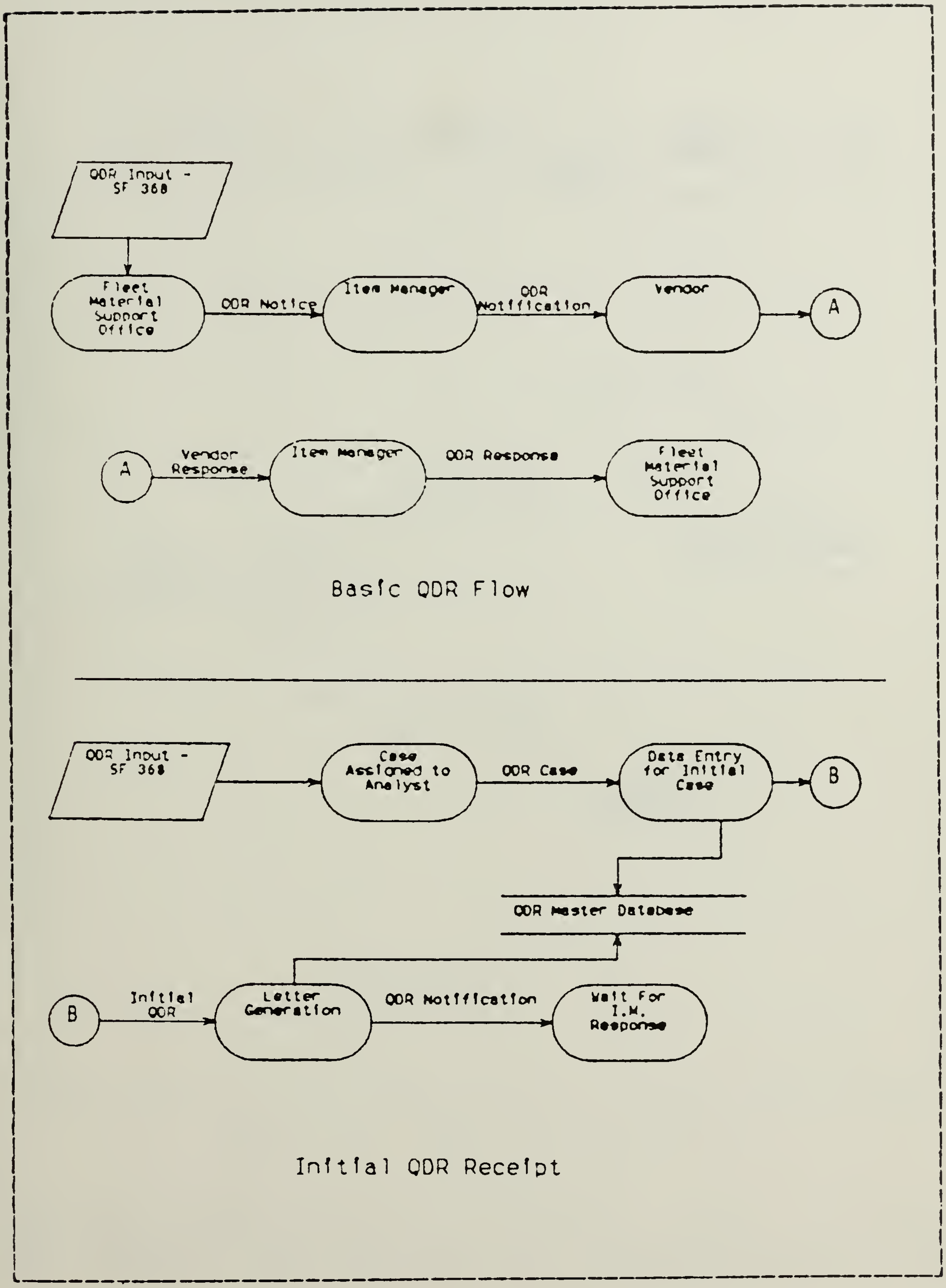


Figure 2.1 Basic QDR Flow and Initial QDR Receipt.

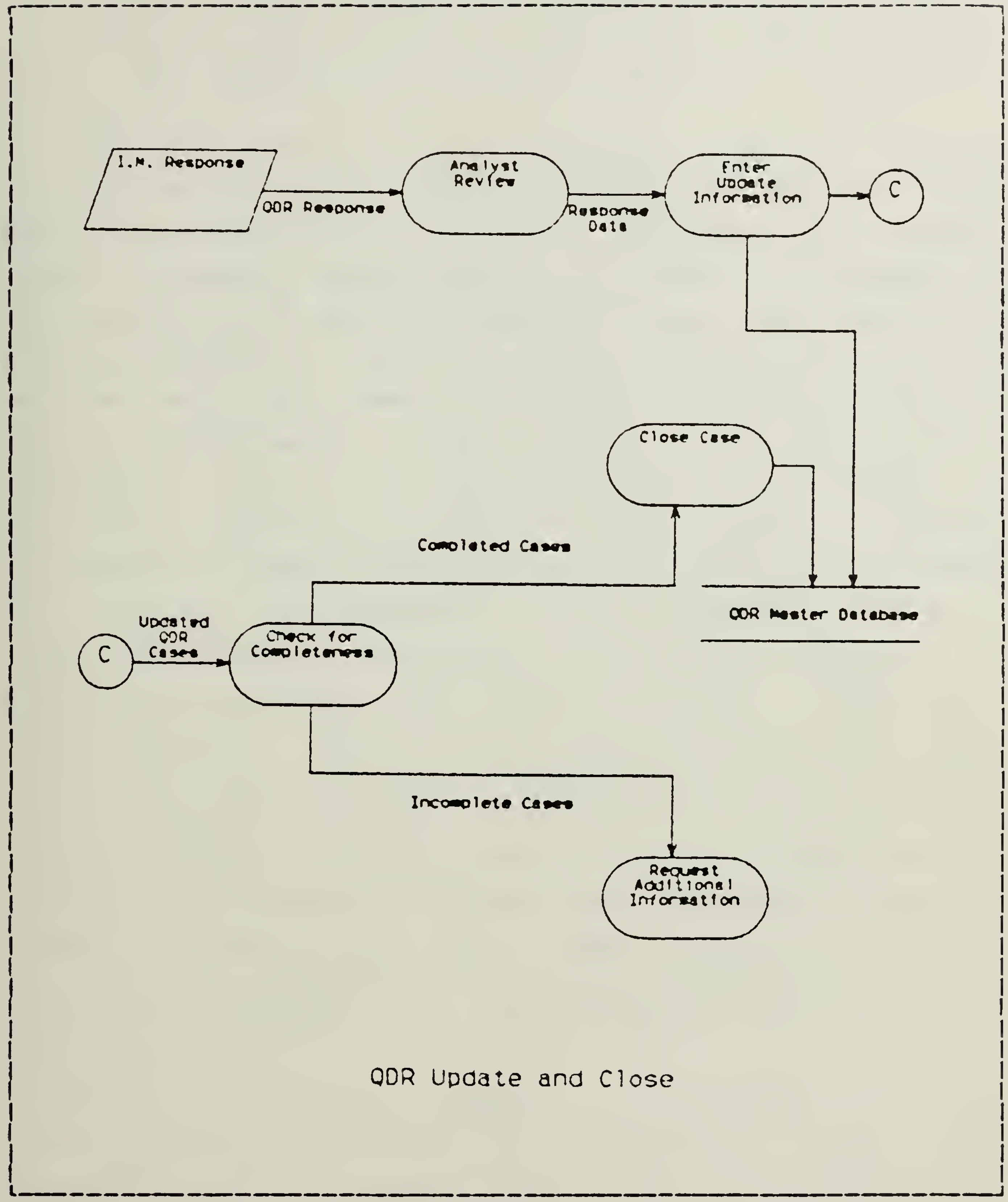


Figure 2.2 Qdr Update and Close.

prompted the creation of the Open Case, Update, and Close Case modules. All other functions associated with the QDR

System are support modules for presenting the Database information to the end user, maintaining support Database Files, and generating management information (See figures 2.3 and 2.4).

The QDR System was implemented using the command language for dBASE II, a Relational Database Product. This command language is a high level language that supports block structured development. It is an interpretive language that must be re-evaluated through each pass of the program execution. To ensure program clarity, the programs utilized meaningful names to identify variables and make the flow of information more apparent to the reader. Information hiding was utilized to reduce the amount of unnecessary information handled by each program. Required information is passed between programs as the data is needed for processing (See Appendix A for a complete listing of Passed Variables). Information hiding also conceals the processing algorithms used within a program. When interfacing programs, the programmer only needs to know what information passes between programs and not how the information is treated internally. The use of information hiding techniques reduces the complexity of systems development by allowing the programs to be developed independently based on interfacing requirements only. [Ref. 3] Another mechanism to simplify the programs is to include comment lines to make them more readable and understandable to maintenance personnel.

As each program was created, it was tested to ensure that it accurately performed the function for which it was designed and did not contain errors. As individual programs were tested, they were combined with other tested units to ensure compatibility between the various system segments. This integration testing was performed to ensure that the individual programs worked in conjunction with other

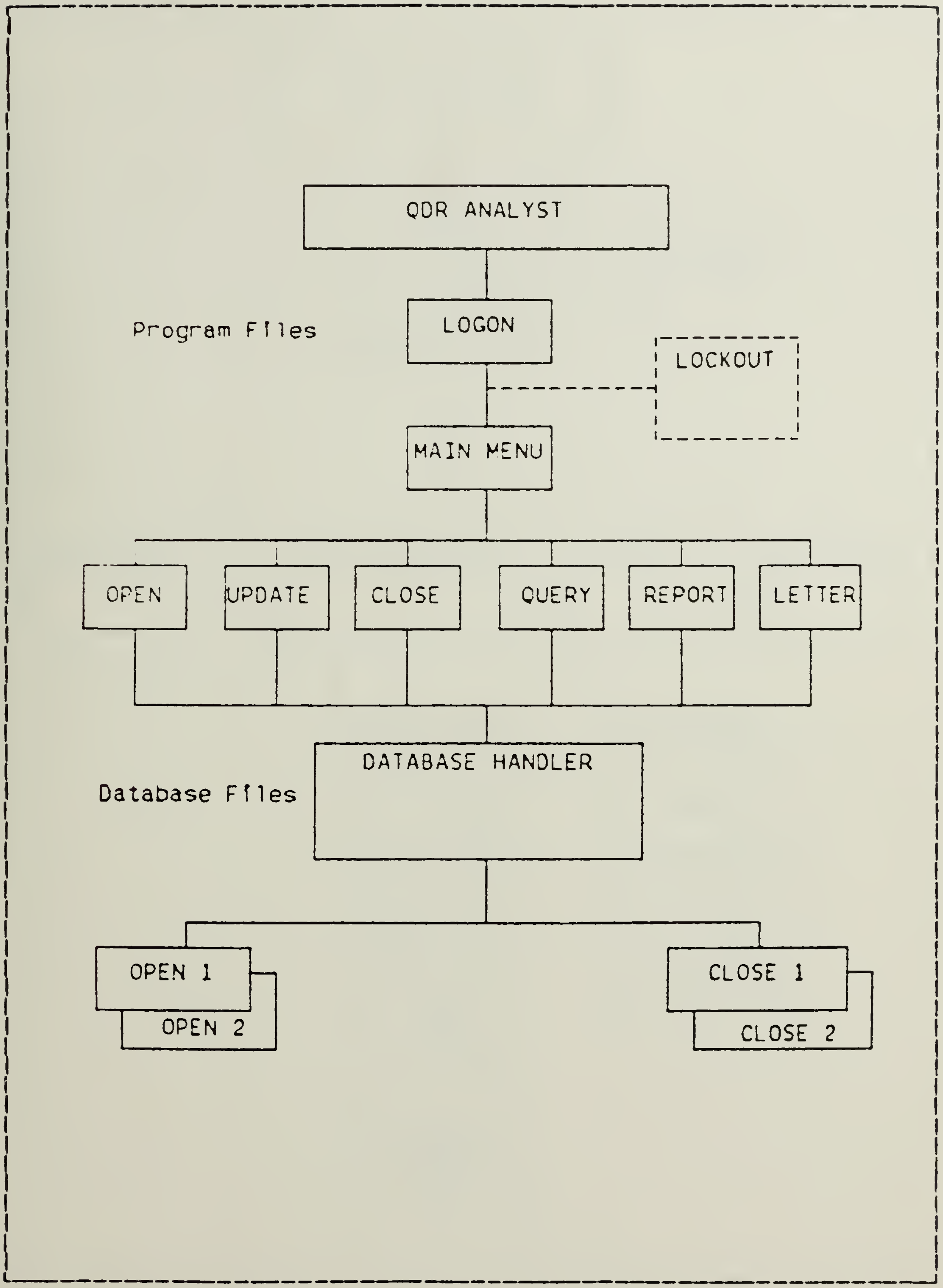


Figure 2.3   User's System Hierarchy.

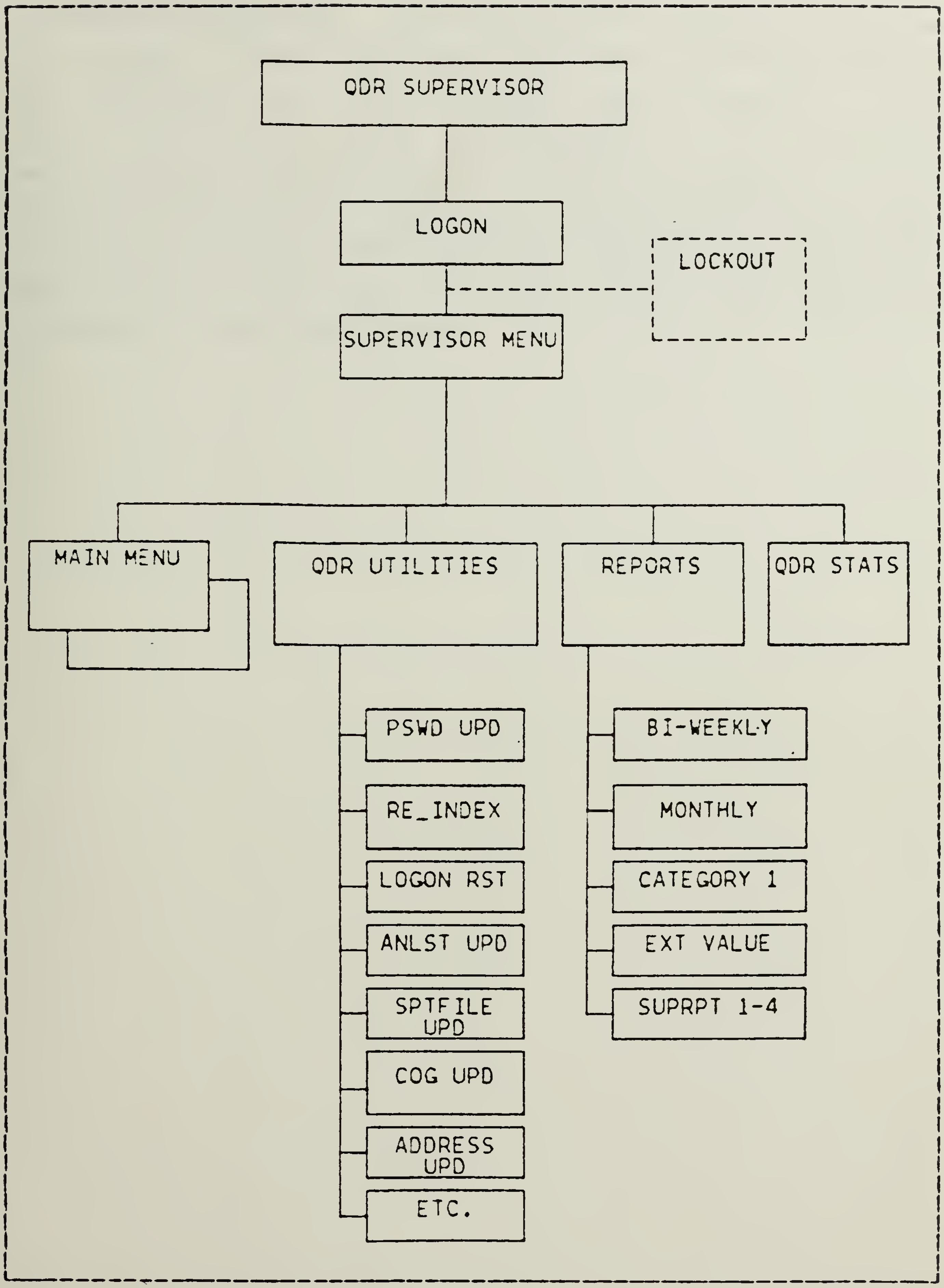


Figure 2.4 Supervisor's System Hierarchy.

programs and modules. As errors were detected in programs and modules, these bugs were corrected and then retesting was performed for both individual and integration tests. All of the initial tests were performed in a single user environment to reduce some of the system complexity. Once a program or module had completed both individual and integration testing, these units were then tested in the multi-user environment. Other aspects of the software development are discussed in more depth later.

III. SYSTEM DEVELOPMENT

The development of the QDR System considered many aspects of computer utilization. The system was designed as an integrated package of hardware and software that was to be utilized as a management information tool. To produce the desired results, both hardware selection and software development requirements were made considering the utilization of the system and the target group of system operators. Such things as user interface, the multi-user environment, security, system cost, and the availablity of system components were integrated in the methodology of developing the QDR System.

A. SOFTWARE

The original QDR software design centered around a data base consisting of 8,000 - 10,000 records in the Open File and 16,000 - 20,000 records in the Closed File. Each of these records contained thirty data fields and required 275 characters of data. Headquarters level changes to QDR processing procedures expanded the scope of the data files considerably. New data requirements in support of the Product Deficiency Reporting System and Evaluation Program (PDREP) increased the files to fifty four data elements requiring over 600 characters of data per QDR Case. (See Appendix B for a complete list of Database structures and Appendix C for the Data Element Definitions.) To accomcdate these additional data items, the case records had to be split into two parts. This was necessary because of a restriction in the Database Management Software used for the system. The current DBMS allowed a maximum of thirty two data elements per database file.

The scope of the changes mentioned above required a total redesign of the QDR System. Up to that point, a substantial amount of design work and actual programming and testing had been completed. Although many of the "lessons learned" during the initial design could be applied to the redesign, and many of the initial algorithms could be modified and reused, the redevelopment effort required a significant amount of time and effort. All user interface programs had to be redesigned and, in many cases, reprogrammed to accomodate the new data elements and provide a meaningful interface. The change in scope drastically reduced the time available for complete testing, documentation and implementation thus resulting in the prototype system being more capable, but requiring additional effort in the above areas.

Much of the software development was aimed at providing a system that had an easy to understand user interface, could be used in a multi-user environment, provided a degree of security, and was maintainable. The following sections discuss each of these areas and provide some insight into how these were achieved. Throughout this chapter, the terms module and program are used interchangably.

1. User Interface With QDR System

The interface between the user and the QDR System was a major point of concentration to ensure the usefulness of the entire system. In order to allow for the lack of experience of the analysts with automated tools and to avoid training costs for newly assigned personnel, the perception that the personal computers were really "QDR Machines" was utilized. The entire dialog of a user with the machine was centered around the functional aspects of the current working environment. A menu based system was utilized to guide the analysts through their case processing. At each

point where a choice could be made, the user was presented with an explicit message. If an invalid choice was made, the system would then provide a message indicating an error, and show the valid range of choices available to the user at that particular point. If the user was familiar with the range of valid inputs and did not make an entry error, then the messages would not appear on the screen. This allowed for the more experienced user to avoid some of the screen prompting. The System was written such that each of the user "QDR Machines" would automatically initialize itself and be in a state waiting for the user to logon (See figure 3.1).

```
                         ENTER YOUR USER I.D.
                                XXXX
```

Figure 3.1 Logon Prompt.

This isolated the user from any of the underlying machine operating system and preparatory steps that are normally associated with putting today's microcomputers into operation. The only function that the computer was available for was the processing of QDR's. When an analyst terminated operations for the day the terminal would again go into a state ready for another user to logon or for the analyst to re-enter the system.

The procedure for an analyst to enter the QDR System is demonstrated by the following selection of screen displays and choices that are available. The process begins with entry into the system at the beginning of the day. Each analyst has been assigned a user I.D. and a unique

password by the system supervisor. The system has earlier been brought up by the supervisor. The first screen presented prompts for the analyst to enter his unique access identification (See figure 3.1). If the access I.D. is not on file, or was entered incorrectly, a message comes on the

```
ACCESS I.D. NOT ON FILE
    PLEASE REENTER
```

Figure 3.2 Invalid I.D. Message.

screen (See figure 3.2). A check is also made to determine if the user is currently logged onto another terminal in the system. If currently logged on, then access is denied and the following message will then be displayed (See figure

```
USER CURRENTLY LOGGED ON
   LOGON TERMINATED
```

Figure 3.3 Currently Logged Message.

3.3). If the correct Access I.D. is entered then the system will prompt to enter the password. The password requires

```
ENTER PASSWORD FOLLOWED BY <CR>
```

Figure 3.4 Login Prompt.

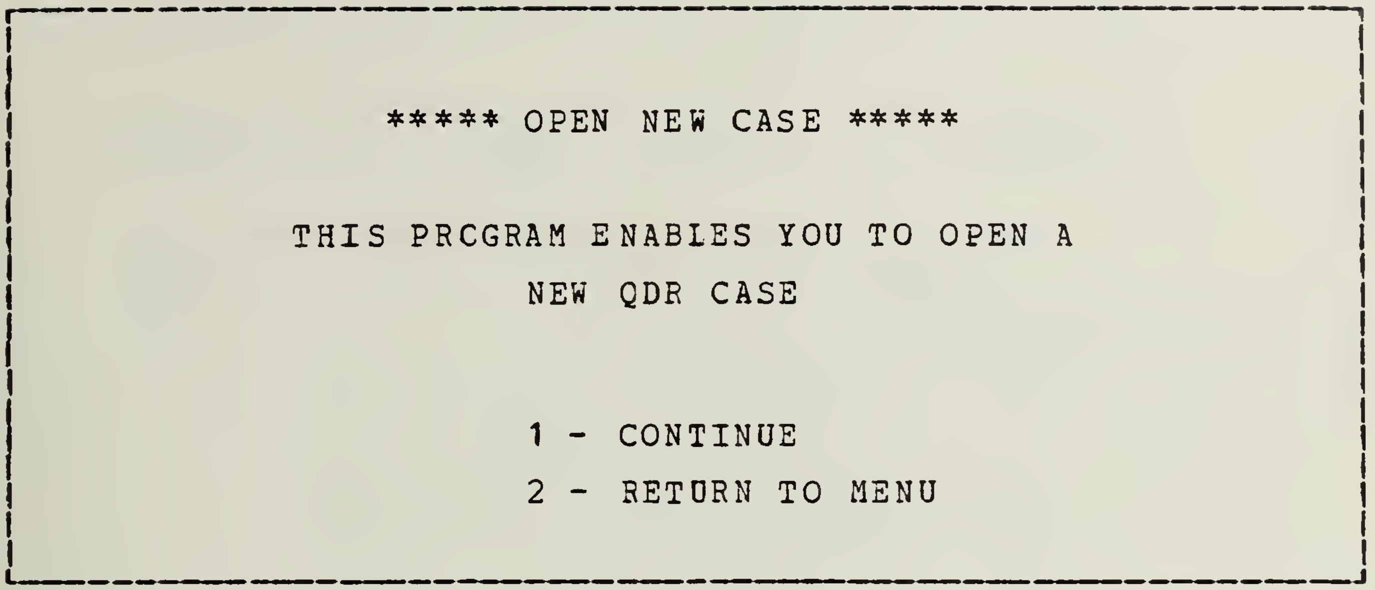
exact upper/lower case entry (Figure opn4). Three chances are given to successfully enter the password and if unsuccessful, the console is locked out and may only be put back into operation by the system supervisor. A successful logon will be followed by a greeting to the QDR System, and the user will be presented with the main menu which contains all of his processing options (See figure 3.5).

```
WELCOME TO THE QDR AUTOMATED TRACKING SYSTEM

             1 - Open New Record
             2 - Close Record
             3 - Update Record
             4 - Originate Letter
             5 - Report Generation
             6 - Query
             7 - Exit from the System

               Enter Your Choice
```

Figure 3.5 Main Menu.

From the main menu (figure 3.5), the analyst has the option to open a new case, update an existing case, close a case, originate a letter to an item manager, get a listing of all of his open cases in the QDR System, query the databases for information or to leave the QDR System.

As an example of the process required to open a new QDR case, the following sequence shows the screens as presented to the analyst. In order to open a case, the analyst chooses a "1" from the main menu and then is presented with a screen where verification of desire is required. This allows the analyst to change his mind before beginning the process and to return to the main menu. A choice of "1" puts the user in the case opening process (See figure 3.6).



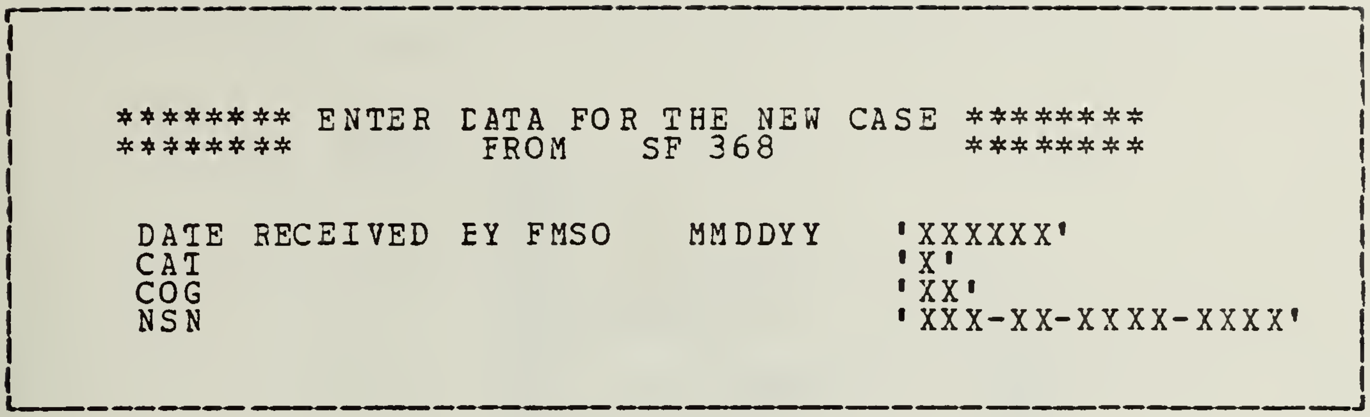
```
***** OPEN NEW CASE *****

THIS PRCGRAM ENABLES YOU TO OPEN A
NEW QDR CASE


1 - CONTINUE
2 - RETURN TO MENU
```

Figure 3.6   Verification Message.

The input screens presented to the user are designed with the source input document Standard Form 368 (SF 368) as the basis. Each of the items of information are captured from the numbered blccks of the SF 368. Where information is not identified on the form, yet is needed for the QDR case, input is requested at the location where most often written in by the analyst or by the originating office. The purpcse of this was to maximize the ease and fluidity of data entry by the analyst by ccnsidering the physical location of the data as well as the lcgical relationship of the elements.

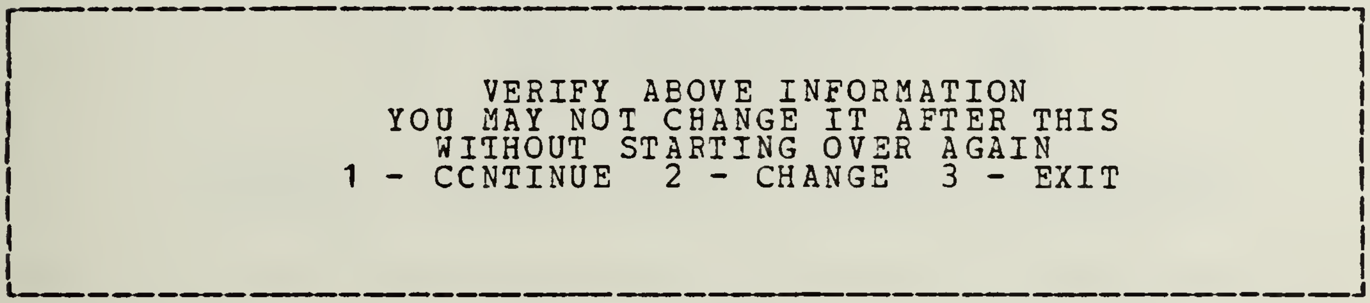
The first entry required was the date the case was received by FMSO. A standard (MMDDYY) format for dates was utilized throughout the QDR prcgrams, based upon user specificaticns (See figure 3.7).

After entry of the national stock number, a prompt to verify the initial data is put on the screen. This enables the analyst tc ensure that the correct case will be created and will alleviate a later need tc delete an invalid case from the database (See figure 3.8). A choice of "2" allows the changing of any initial data item before continuing to the second screen.



```
******** ENTER DATA FOR THE NEW CASE ********
********         FROM   SF 368        ********

 DATE RECEIVED BY FMSO   MMDDYY    'XXXXXX'
 CAT                               'X'
 COG                               'XX'
 NSN                               'XXX-XX-XXXX-XXXX'
```

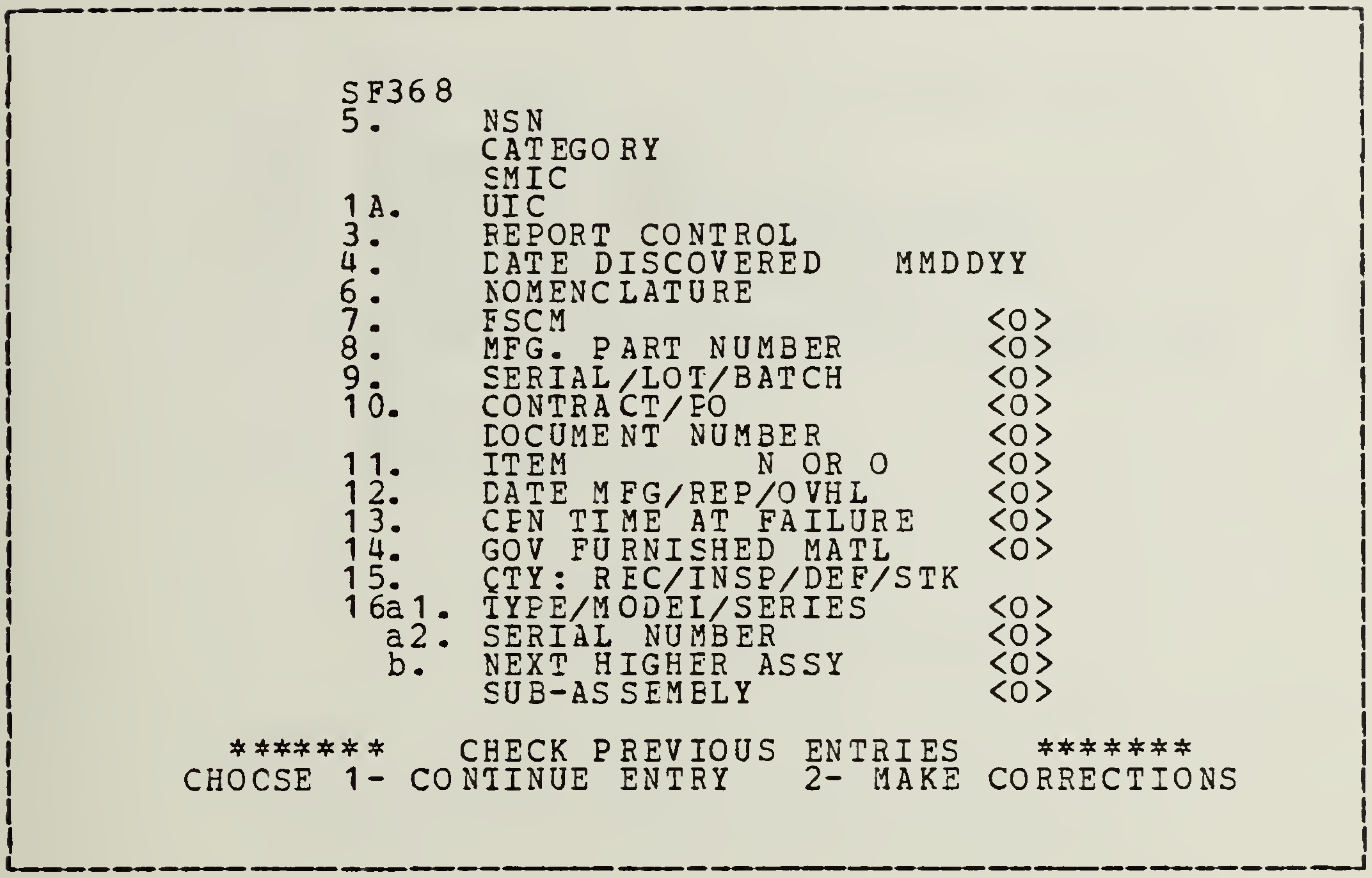
Figure 3.7 Initial Entry Screen.



```
            VERIFY ABOVE INFORMATION
        YOU MAY NOT CHANGE IT AFTER THIS
          WITHOUT STARTING OVER AGAIN
     1 - CONTINUE  2 - CHANGE  3 - EXIT
```

Figure 3.8 Bailout /Change Option.

The analyst is next presented with a full screen of data elements. The layout is such that the left side of the item labels contains the numbers relating to the SF 368 blocks. This portion is blank where the element is not on the SF 368. Following each element label is a reverse video representation showing the correct length of the input item. The inputs which are optional are marked by a <O> (See figure 3.9). The cursor moves from one data element to the next one as the analyst completes item entry. Any incorrect or out of bounds entry will result in a specific error message to the user showing the valid range of inputs. These error messages, when activated, appear on the last line of the screen. The user can thus consistently look to a single location for status or error messages from the QDR System.

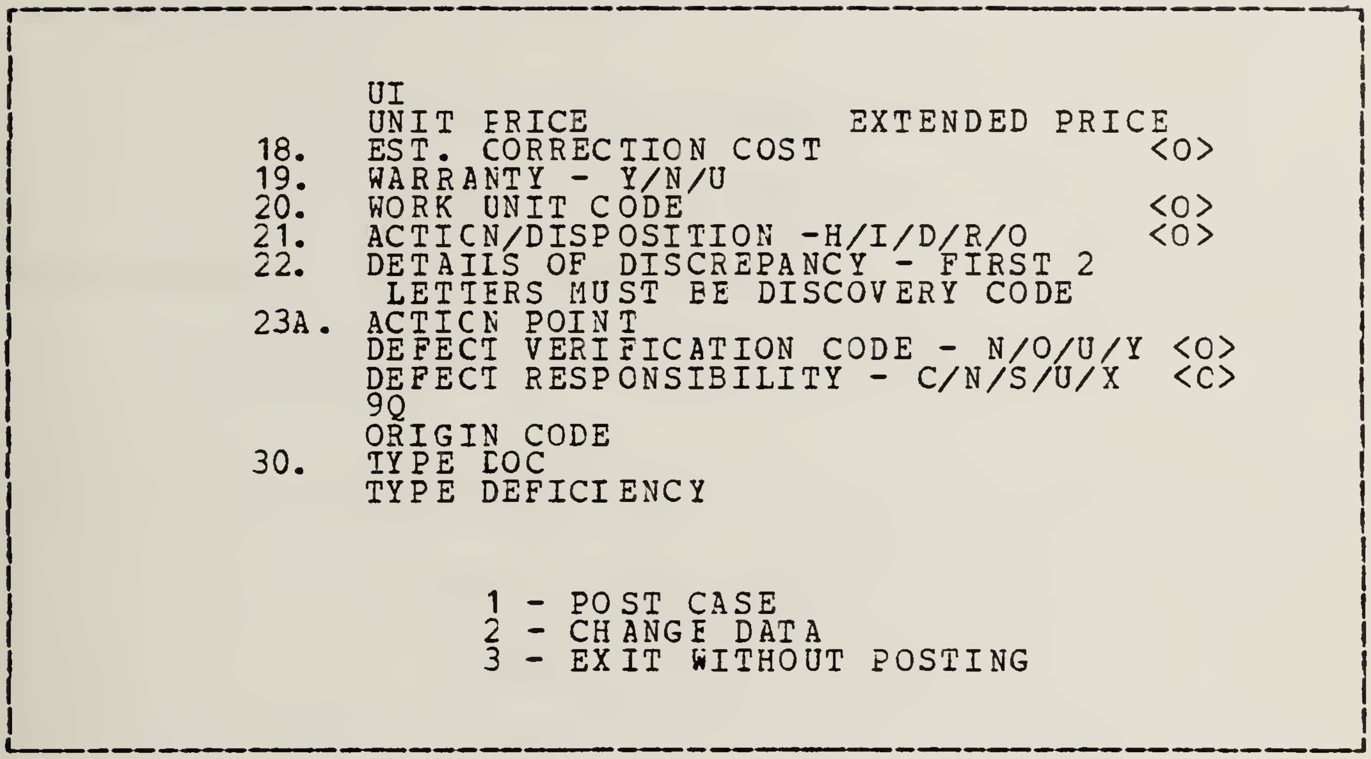


```
          SF368
          5.     NSN
                 CATEGORY
                 SMIC
          1A.    UIC
          3.     REPORT CONTROL
          4.     DATE DISCOVERED    MMDDYY
          6.     NOMENCLATURE
          7.     FSCM                       <O>
          8.     MFG. PART NUMBER           <O>
          9.     SERIAL/LOT/BATCH           <O>
          10.    CONTRACT/PO                <O>
                 DOCUMENT NUMBER            <O>
          11.    ITEM         N OR O        <O>
          12.    DATE MFG/REP/OVHL          <O>
          13.    CPN TIME AT FAILURE        <O>
          14.    GOV FURNISHED MATL         <O>
          15.    QTY: REC/INSP/DEF/STK
          16a1.  TYPE/MODEL/SERIES          <O>
            a2.  SERIAL NUMBER              <O>
            b.   NEXT HIGHER ASSY           <O>
                 SUB-ASSEMBLY               <O>

    *******   CHECK PREVIOUS ENTRIES    *******
  CHOOSE 1- CONTINUE ENTRY   2- MAKE CORRECTIONS
```

Figure 3.9 First Screen of data.

Consistent with the previous choices of leaving a particular screen, the analyst has the ability to make changes before proceeding. The next screen of data presents the same basic format to the user, and allows the input of the second half of the data elements. The NSN and category of the case being input are echoed at the top of the screen so the analyst may keep track of them for later reference. Data items are calculated by the program where possible and then inserted into the screen at the appropriate point. The extended price is one such item which was previously hand computed (See figure 3.10).

Upon completion of data element entry, the analyst may elect to change an item, post the case or exit the opening program and go back to the main menu without posting the case. This is critical at this time in the entry



```
        UI
        UNIT PRICE                EXTENDED PRICE
18.     EST. CORRECTION COST                    <O>
19.     WARRANTY - Y/N/U
20.     WORK UNIT CODE                          <O>
21.     ACTICN/DISPOSITION -H/I/D/R/O           <O>
22.     DETAILS OF DISCREPANCY - FIRST 2
         LETTERS MUST BE DISCOVERY CODE
23A.    ACTICN POINT
        DEFECT VERIFICATION CODE - N/O/U/Y <O>
        DEFECT RESPONSIBILITY - C/N/S/U/X  <C>
        9Q
        ORIGIN CODE
30.     TYPE DOC
        TYPE DEFICIENCY


             1 - POST CASE
             2 - CHANGE DATA
             3 - EXIT WITHOUT POSTING
```

Figure 3.10 Second Screen of Data.

process. If a major mistake had been detected, it would be best to re-initiate the entry of a particular case instead of using the update program to change each item. This gives the analyst a final point where the process can start over without any interaction with the current cases. From the users point of view it is comforting to know that an earlier mistake could be eliminated prior to posting. On a busy network, the posting process may take a few minutes, thus the analyst is re-assured that "all is well" by a screen giving a status report on the process (See figure 3.11).

After successful assignment of a case number and posting to the database, the case number is displayed on the screen (See figure 3.12). After noting the case number on the SF 368 for any future reference as needed, the analyst can clear the screen by pressing any key, and then will be back at the point where he may input another new QDR case or return to the main menu.

```
CASE BEING POSTED TO DATA BASE
        PLEASE STANDBY

***    DO NOT INTERRUPT    ***
```

Figure 3.11 Response to POST Choice.

```
CASE NUMBER OF THE NEW CASE
          '400192A'

  PRESS ANY KEY TO CONTINUE
```

Figure 3.12 Feedback to Analyst.

The above sequence gives a flavor of the screens and messages that are present in the QDR System. Foremost consideration in design of screens and menus was the ease of use by the analysts. The screen design in a pattern which matched the source document as much as possible while considering additional input requirements led to a clean, easy to understand representation. The error messages were directed at identifying a specific range of acceptable input values and presenting these to the analysts for their review. Consistency of input parameters was maintained to enable the user to react to prompts and choice points thus requiring a minimum of additional thought and attention to the process of data entry and interaction with the "QDR Machine" itself.

2. Multi-User Environment

The QDR System uses dBASE II to handle all aspects of the system's operations. This database management product is designed for a single user and does not provide the locking mechanisms necessary for a multi-user environment. To overcome this deficiency, a Database Handler was created to control access to the various database files. Access to the Database is achieved by calling the Database Handler routine and providing it with a two character alpha-numeric type code which represents the type of the desired access (See figure 3.13). The Database Handler will either expect additional parameters or will provide information depending on the selected access type.

In order to perform record locking or file write functions, the Database Handler must first establish write access to the database file that is being written to. A special "File Status" data file provides the mechanism to determine write access. As each user process calls the Database Handler for file write transactions, the file status is checked to see if the file is currently locked by another process. If the file is locked, the Database Handler enters into a test and wait loop until the file is made available. When the file is unlocked, the Database Handler will then lock the required file by placing the User I.D. of the operator into the file status file. There is a point of contention at the moment the file is released by a process. Each terminal on the network has its own copy of the Database Handler and as such, when a file is unlocked, other processes will perform the same locking action. To ensure that a process has obtained write access, a verification check is made just prior to actually performing the write operation. If write access has been obtained, the Database Handler will perform the write and release the data

The first character of the Access Code represents the file being accessed and the second character represents type of access desired.

First Character	Database File Used
1	OPEN1
2	OPEN2
3	CLOSE1
4	CLOSE2

Second Character	Database Action
A	Read - NSN Access (See note 1)
B	Read - Case Number Access
C	Write - Unlock Record
D	Read/Lock - NSN Access
E	Read/Lock - Case Access
F	New Record Creation (See note 2)
G	Record Unlock
H	Read - Record Number Access
I	Skip/Read - Record Number Access

Note 1: Open2 and Close2 do not have NSN Access and default to Case Number Access.

Note 2: Close1 and Close2 create new records from the Open File records being closed.

Figure 3.13 Database Handler Access Codes.

file for others. If write access is not obtained, the test and wait loop is entered again.

To perform a write operation, the entire database file is locked so that no one else can write to it. When an individual record must be updated, it is undesirable to leave the Database file locked while the operator is making updates to the record. To prevent this, a record locking

capability was added to the Database Handler. This is done by including a timestamp data element in each data record. Prior to retrieving a record for update, the Database Handler checks to see if the record has previously been locked. Any attempt to update a locked record will result in a code being returned to the calling program/module (See

The Data Base Handler will return a one digit Code indicating the Success/Failure of a Data Base Access.

Return Code	Definition
0	Data Base Access Successful
1	Record Currently Locked
2-8	Unassigned (Available for future growth)
9	Record Not Found

Figure 3.14 Data Base Handler Return Codes.

Figure 3.14). As with general write operations, the database must be temporarily locked to allow the timestamp to be written out to the file. This record locking mechanism allows multiple users to function without unintentionally overwriting information.

3. <u>System Security</u>

Because of the amount of data held by the QDR System and the value of the information to FMSO Code 91423, the QDR System required some degree of security. There are basically two levels of security available for the system. The first level of security is the protection of the System Disks. The Master Network Station is the gateway to the QDR

Programs and Data Files. By keeping the master station operating disks under lock and key, the system is not generally accessible to unauthorized personnel. Access to these disks should be controlled by the system supervisor or his assistant supervisor.

The second level of security involves a logon and password system incorporated into the QDR Software. Each authorized user is provided a unique user identification code which will allow him access to the system. In addition to the required I.D. Code, a password is required to complete the logon procedure. The passwords may and should be changed periodically by the system supervisor to reduce the likelyhood of unauthorized personnel becoming familiar with the passwords. To utilize the QDR System, the user accesses the system as described in the section on user interface. The user is given three attempts to access the System. If all three access attempts fail, the system will display an "Illegal Access Attempt" message and will lockout the terminal. The only way to return a locked terminal to an operational mode is to "reboot" the affected terminal.

Although this method of security is simplistic, it is the method most suitable for a system of this nature. As the value of the data held by the system increases, the security procedures should be reviewed to ensure they are adequate.

4. Flexibility And Maintenance

The fact that the QDR System could expect to undergo changes was considered in not only program development, but also in the database organization. Flexibility and maintainability of the entire system represented development objectives in order to support the earlier discussed design goals of modularity and information hiding.

DBASE II with its command language and relational database provided a powerful vehicle to construct the programs and databases for the system. The English-like quality of the command language provides the programmers a sense of code function over and above relying on algorithm inspection alone. Comments were spread throughout the program listing where they would assist understanding of specific portions of the processing, especially in QUERY and XDBHNDLR (See Appendix D for a complete set of QDR System Program Listings). Additionally, comments were provided in the program headers to identify critical information. Variables passed between the module of interest and all other modules as well as a list of subordinate and superordinate modules were provided. Maintenance of the programs could then be conducted with a knowledge of the current interface between the modules.

The structured programming technique of indentation was used to enhance readability and understandability of the code. This provided anyone reviewing the source listings with an easy to understand view of the control structures. Each level of control was indented to identify and clarify the hierarchy of control. Each hierarchical level can thus be traced from level to level by following the indentation pattern.

In addition to the general aids to maintainability described above, some specific areas were identified for likely future changes. Internally generated change was expected from assignment of different analysts, additional or modified internal reports and standard queries. External changes were likely in the areas of Cognizance Group (COG) assignments, changing addresses of Item Managers and report modifications.

The supervisor was provided with the means to update currently authorized users and their passwords via

the supervisor's main menu. The updating of COGs and Item Manager's information were also included. These were seen as routine housekeeping modifications which did not demand a programmer's attention.

If demand for specific, repetitive queries arise, the addition of this capability by maintenance programmers is very easy. Currently each analyst is able to receive a listing of each of his currently open cases as a standard query from his "report menu". To add any additional query would require modification of only one program module.

As an example, suppose that a commonly occuring query by all analysts was to receive a list of their open cases from a particular COG. The programmer would be able to provide this capability by adding only a few lines of code. The addition of a menu selection item would be accomplished by the following:

```
***** MENU ADDITION
      ' 2 - List of assigned open cases for specific COG '

***** VALIDATING ENTRY

  STORE T TO BADCOG
  DO WHILE BADCOG
      @ LINE,COLUMN SAY 'Enter COG' GET ANSWER
      READ
      USE D:COGS
      FIND ANSWER
      IF  # = 0
         @ 23,20 SAY 'COG NOT FOUND, TRY AGAIN'
      ELSE
         STORE F TO BADCOG
      ENDIF
  ENDDO <BADCOG>

***** NOW FIND THE OPEN CASES FOR THIS ANALYST
***** CHOICE OF MEDIUM WAS MADE IN ORIGINAL MENU

  USE D:OPEN1
  DISPLAY CASE,NSN,NOMEN,$(DATES,11,5) FOR COG = ANSWER
          .AND. WHO = C:WHO
```

This is but one of the many methods that could be used to provide the additional capability to the analysts.

The isolation of the functions within a single module combined with the power of a relational database are a definite asset to the programmer in extending the use of the system to its users.

While the capability to extend the functions provided has been built in, the decision to do so should not be taken without consideration of the impact on the system as a whole. An extension such as the one just described could be helpful and not be detrimental to the system operation if properly implemented. A choice would have to be made;

1. Restrict the use of this option to low use periods.
2. Implement it as a standard internal report, once a week for example.
3. Create an index file based on either COG or analyst and keep these updated during normal processing.

The supervisor must be aware of the impact of these alternatives. What in the first view looks like a very easy and useful method of producing the listings, may potentially cause system-wide problems. The two most likely drawbacks would be slowing processing response time to an unacceptable level or causing additional index files to steal precious space on the system hard disk. The first option would allow analysts to retain greatest flexibility, however it would be difficult to implement and control. The internal indexing of the databases for normal processing includes neither COG nor Analyst. For this reason a request as outlined above would require a sequential search of the OPEN1 database. A process that could take up to 30 minutes, not likely a satisfactory solution!

The second option has the advantage of being easy to control, has no impact on day to day processing

or storage and meets the requirement to provide a list to each analyst. Analyst flexibility would be compromised and the required periodicity would have to be determined.

Choice number three would allow the lists to be generated upon demand. The major drawback would be the addition of an additional index that would have to be updated at each case creation, update and closing. This would add overall processing requirements and thus slow down the complete system. Additionally, the index would require space on the hard disk, a critical resource.

The proper choice for the supervisor and programmer combination would balance the users needs and the system realities. Although the above example shows a simple, easy extension it points out the necessary considerations which must be included in all decisions. The micro computer system, as well as the mainframe computer does have application limits. In the QDR System all current requirements have been met, and while designed for ease of maintenance and extendability, the latter should be implemented with discretion and caution.

B. HARDWARE

The QDR System is a combined software and hardware suite which performs management information and database management functions. The hardware selected for the system was comprised of multiple microcomputers, secondary storage devices, printers, monitors, keyboards, and network hardware with controlling software. The selection of the supporting hardware is vital to the operation of the central database system because it provides the mechanism for sharing the database files and operating programs. To meet the demands of the network operation, the hardware must be compatible

and allow the equipment to be integrated into a complete system.

1. Selected Hardware

The microcomputer selected for the QDR System was the IBM-Personal Computer (PC). This provided expandability and supported both networking and relatively large hard disk storage devices. At the Naval Postgraduate School prototype site, the network was composed of four PC's. Each PC was equipped with a keyboard, a color monitor and color controller board which allowed the experimentation with color interfaces for users. All of the PC's contained two double-sided double-density 320 KByte floppy disk units with controllers and network controller boards for Orchid Technology's PCnet. Two of the four PC's had 128 KBytes of random access memory (RAM) while the other two had 320 KBytes of RAM. The 320 KB systems were also equipped with AST Research's MegaPlus board which provided 64 KB of the 320 KB RAM, a clock/calendar, a serial input/output (I/O) port, and a parallel I/O port. These I/O ports allowed the connection of either printers or modems. Two printers were connected to the network (one to each of the PCs with I/O ports). One printer provided letter quality output through its daisy wheel print, while the other provided the capability of printing text and drawing graphs through its dot matrix print.

The personal computers with the additional memory and I/O capabilities were also outfitted with interface cards for Tallgrass Technology's 20 MByte Hard Disk Storage Units. These disk units provided up to four logical disk drives and contained built-in tape backup units which allowed saving archival information.

2. Hardware Integration

The integration of the hardware was largely completed by the equipment manufacturers. The controller boards for both the network and the hard disk interfaces were specifically designed to become an integral part of the IBM-PC. The software that controlled both the hard disk and the network were created to work in conjunction with the PC-DOS operating system and with each other. The importance of this interface between the manufacturers became very apparent as system integration testing began. The initial versions of the network and hard disk software were not completely compatible. As a result, the system was prone to locking up during operations that involved large amounts of disk accessing. The respective companies worked together to solve the lockup problems and made available the corrected versions. Once the corrected versions were installed, the lockup problem appeared to be alleviated and cleared the path for the creation of the Central Database System.

3. Hardware Limitations

A limitation of the selected hardware suite is the inability for a shared PC to access files located on another shared PC. This means that the shared PCs are limited in their ability to access the total database. During the early design phases, this was not considered a problem because each record only required 275 bytes of information. Assuming a combined load of 30,000 records in the Open and Closed Database Files, the system required less than 9 Mega Bytes of storage. Under the revised QDR processing requirements, the same load of 30,000 records required over 18 MB of storage. The 18 MB requirement does not include overhead for programs, support files, or indices required by the QDR System. This meant that the Open and Closed Database Files

needed to be split across two hard disk units. Since the user PCs can have access to multiple shared devices, this limitation only restricts the use of the shared PCs. By utilizing the shared PCs as network controllers only, the databases can be split across the network and accessed by all users.

C. TESTING

Testing was conducted throughout the development period of the QDR System. The testing approach used was to progress from unit testing of one module to integration of tested modules. Validation of these modules against design criteria was followed by system testing using the complete software and hardware package. [Ref. 4]

1. Unit Testing

Unit testing of modules represented the first level of testing. Once the program modules were coded and had been cleansed of any syntactical ailments, they were individually tested. Both testing harnesses and program stubs were used at different stages of program development. The top down design had identified those key modules needed to support the function of the system. The first modules coded and tested were thus the Database Handler (XDBHNDLR) and the Open Case Module (XOPEN2). Testing XDBHNDLR required development of a harness in order to input expected parameters and make available specific data to the module. The emphasis of this module was two-fold. First it was expected to be the program's interface with the case databases, and as such had to properly read and write specific files according to the "type code" presented to it. The second concern was contention. Stepwise testing of the module was conducted. A testing harness

with a sample data set was used to exercise the Database Handler until it performed properly. The second testing stage was to use multiple inputs over the network to isolate any contention problems and eliminate them. Concurrently the Open Case module was undergoing parallel testing using the database directly.

2. Integration and System Testing

Integration testing was then conducted to bring together the XDBHNDIF and XOPEN2 modules. The purpose of this stage was to ensure the interface between the modules was in accordance with design. Once these programs were in this stage, the same sequence was utilized to test the other main modules, and bring them up to the integrated level.

By late October the main processing modules were integrated and the limited system was operating satisfactorily. The system re-design and development discussed earlier caused testing to begin anew. At that time the operating system version was changed from PC DOS 1.1 to PC DOS 2.0. The network and hard disk software were also upgraded.

Limited time for completion of system development and coding resulted in only partial system testing by mid January on the NPS prototype system. During demonstration at the FMSO site, the QDR system operated properly as a single user system but not with multiple simultaneous transactions over the network. The cause was not determined at that time. Orchid Technology and Tallgrass were contacted to discuss the difficulties, resulting in an updated release of both software packages being sent to NPS.

Limited system testing on the NPS network indicated that the problem had been corrected. Subsequent operation of the QDR system by personnel at FMSO (with the

upgraded software) was not successful. Multiuser system failure could not be duplicated at NPS. Reasons for the network failure at FMSO have not been identified.

3. Response Times

Multiple users and large databases affect response time on micro computer systems to a large degree. Figure 3.15 shows the time required for specific operations with different system loads. Where depicted, multiple users are performing the exact same operations simultaneously.

SIZE	100 rcds			6000 rcds		
Users	1	2	3	1	2	3
OPERATION						
1. Post Case:	:26	1:15	2:25	:59	2:29	3:36
2. Case Update						
1st screen	:38	1:27	1:58	:52	1:59	2:37
2d screen	:17	:37	1:12	:24	:50	1:08
3. Case Closing	1:28	3:25	4:24	1:48	4:07	6:10

Times shown as minutes:seconds. Where time represents multiple users, the time shown is completion time for all users

Figure 3.15 Response Times.

These times give an idea of the different response the user can expect with the loadings as indicated. The difference in times used by adding a second user is not significant. However, if numerous analysts were conducting operations at the same time then the times could increase to a level where input operations would be significantly

delayed. The differential in response times for added users reflects two items. The first is the contention induced for packet access to the network, which represents the main portion of the delay time. The second is a delay due to internal checking in XDBHNDLR to allow only one of the asynchronous processes access to the database. Time differences between the operations reflect the amount of data which has to be stored into the database as well as the number of different databases which must be accessed to complete the operation (2 for posting a case, 4 for closing a case).

IV. CONCLUSIONS AND RECOMMENDATIONS

A prototype system is designed to provide an interface for users and acquaint them with the potential value of an automated operation. It allows the user to see how the final system will present and accept data and provides the opportunity to modify the interface before final system implementation. Prototyping allows the rapid development of a system but generally does not contain all of the capabilities of an operational system.

The QDR System, although a prototype, was designed with capabilities beyond normal prototyping. It provides not only user interface capabilities, but also full database management capabilities. The additional features were added to allow the QDR System to be placed in an operational environment to be tested and to aquaint the user with automated systems and their operations. To provide functionality, the system was designed for multiple users to access the database files. This meant that the system allowed for record locking, multiple read/write operations, and security access to the system.

A. CONCLUSIONS

The design and implementation of an automated Quality Deficiency Reporting System prototype has been described in this study. A working protctype has been established and is available for future evaluation. Conclusions drawn from this development include:

1. The prototype software design meets current QDR processing requirements and includes PDREP derived data elements identified for future inclusion in the QDR System.

2. There are two main operating limitations with the current system; speed of processing with multiple users and limited system capacity to meet increased QDR requirements.

3. The NPS prototype system demonstrated the feasibility of accomplishing QDR processing on a microcomputer based system.

4. If new software and hardware become available to alleviate network and database limitations, the prototype could be modified to provide an operational system.

B. RECOMMENDATIONS

1. Continue development of a microcomputer based system to provide automation of the QDR workflow.

2. Consider migration to a minicomputer or mainframe computer using the basic prototype design, in order to allow for faster response time and growth potential.

The recommendations above provide for the user to become familiar with the automation capabilities that can be implemented in the QDR processing environment. Additionally, it opens up the channels for user feedback to system designers that are working on future versions of QDR support systems. The initial design considerations that went into creating the prototype system are valid for mini/mainframe computer implementation. The data dictionary used, the menus and interface screens, and the security considerations will remain valid in both the microcomputer and mini/mainframe computer environments. The use of a higher level language in the prototype system provides the potential to directly convert the algorithms to a new system.

If it is more practical to continue utilizing the microcomputer network, the size of the database could be expanded

by the use of 35 MB hard disk units, thus approximately doubling the system capacity. Additional speed for the microcomputer network could possibly be achieved by converting the file and record locking/unlocking operations into assembly or machine language routines (although this is not recommended because of future maintenance headaches). Another avenue to explore is the acquisition of a multi-user version of dBase II that was recently announced. This would allow the elimination of file locking and control currently accomplished by the QDR System software, and with a small amount of reprogramming the XDBHNDLR program could be eliminated.

The prototype QDR System provided a starting point for future growth in the QDR processing environment. The groundwork that has been laid can be utilized for either a continuation in the microcomputer realm or can be utilized with larger computers.

APPENDIX A
GLOBAL MEMORY DEFINITIONS

There are various types of memory variables utilized by the QDR System. These variables are divided into Global and Local Variables. Global Variables are used to transfer data between programs and modules and are designated by either M: or C:. Local Variables are utilized for internal control within programs. These variables are identified by U: for XUPDATE, H: for XDBHNDLR, O: for XOPEN2, etc.

The variables listed below are the Global Variables utilized by the QDR System. They are presented as:

```
  Variable Name                    Using Modules

          Description Of Variable
 ------------------------------------------------------------------

C:JULIAN                  (CLOSREC, LOGON, MENU1, XDBHNDLR,
                           XOPEN2, XUPDAT, XXBISTAT, XXMNSTAT)

MEMORY VARIABLE WHICH HOLDS TODAYS JULIAN DATE.  THIS DATE
IS GENERATED BY ACCESSING THE SYSTEM CALANDER AND CONVERTING
TO A JULIAN DATE.


C:WHO                     (CLOSREC, COGCNT, C-REASGN, DBPACK,
                           LOGON, MENU1, OCASERPT, QUERY,
                           RPTMENU, STATGEN, SUPMENU1, SUPRPTS,
                           SUPRPT2, UTILMENU, UTILNDX, XDBHNDLR,
                           XOPEN2, XUPDAT, XXBISTAT, XXMNSTAT)

MEMORY VARIABLE THAT HOLD THE LOGON IDENTIFICATION OF THE
ANALYST.  THIS IS CAPTURED DURING THE LOGON PROCESS.


M:ACTDISP                 (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE ACTION/DISPOSITION
INSTRUCTIONS.  ORIGINALLY CAPTURED FROM BLOCK 21 OF THE
SF 368.


M:ACTPT                   (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE ACTION POINT.
```

M:ACTTKN (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE ACTION CODE. ORIGINALLY CAPTURED FROM BLOCK 21 OF THE SF 368.

M:CASE (CLOSREC, C-REASGN, XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE USED TO CAPTURE THE NUMBER OF THE QDR CASE.

M:CAT (C-REASGN, XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE CLASS OF THE QDR CASE. CASES MAY BE EITHER CATEGORY 1 (HIGH PRIORITY) OR CATEGORY 2 (NORMAL PRIORITY). ORIGINALLY CAPTURED FROM THE SF 368 OR QDR MESSAGE.

M:CAUSEC (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE CAUSE CODE.

M:CCOST (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE ESTIMATED CORRECTION COST. ORIGINALLY CAPTURED FROM BLOCK 18 OF SF 368.

M:CLOSE (CLOSREC, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DATE THE CASE WAS CLOSED. ORIGINALLY ENTERED UPON CLOSING THE CASE.

M:COG (C-REASGN, XDBHNDLR, XOPEN2, XUPDAT, XXBISTAT)

MEMORY VARIABLE WHICH HOLDS THE COGNIZANCE SYMBOL FOR THE ASSOCIATED NSN. ORIGINALLY CAPTURED FROM BLOCK 5 OF THE SF 368.

M:COSTC (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE COST CODE.

M:CR (CLOSREC, XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE CREDIT CODE.

M:DATES (CLOSREC, C-REASGN, XDBHNDLR, XOPEN2, XUPDAT, XXBISTAT, XXMNSTAT)

MEMORY VARIABLE WHICH HOLDS THE CONCATINATION OF THE MAJOR DATES ASSOCIATED WITH THE QDR SYSTEM.

```
M:DEF                    (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE TYPE DEFECT CODE.


M:DEFR                   (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DEFECT RESPONSIBILITY CODE.


M:DEFV                   (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DEFECT VERIFICATION CODE.


M:DETAILS                (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE DETAILS OF THE QDR.
ORIGINALLY CAPTURED FROM BLOCK 22 OF THE SF 368.


M:DIS                    (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE DISCOVERY CODE.
ORIGINALLY CAPTURED FROM BLOCK 22 OF THE SF 368.


M:DITEM                  (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH CONCATENATES MODEL, SERIAL NUMBER OF
DEFICIENT PART, NEXT HIGHER ASSEMBLY, AND SUB ASSEMBLY.
ORIGINALLY CAPTURED FROM BLOCK 16 OF SF 368.


M:DOC                    (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE TYPE DOCUMENT.  ORIGINALLY
CAPTURED FROM BLOCK 30 OF THE SF 368.


M:DOCNO                  (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DOCUMENT NUMBER.  ORIGINALLY
CAPTURED FROM BLOCK 10 OF THE SF 368.


M:EPRC                   (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE EXTENDED PRICE OF THE
DEFICIENT MATERIAL.  THE EXTENDED PRICE IS CALCULATED BY
MULTIPLYING THE QUANTITY DEFICIENT BY THE UNIT PRICE.
```

M:FSCM (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE FEDERAL SUPPLY CODE OF MANFACTURER. ORIGINALLY CAPTURED FROM BLOCK 7 OF THE SF 368.

M:GOV (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES GOVERNMENT FURNISHED MATERIAL. CRIGINALLY CAPTURED FROM BLOCK 14 OF THE SF 368.

M:ITEM (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THAT THE ITEM IS NEW OR A REPAIR/OVERHAUL ITEM. ORIGINALLY CAPTURED FROM BLOCK 11 OF THE SF 368.

M:KEY (CLOSREC, C-REASGN, XDBHNDLR, XOPEN2)

MEMORY VARIABLE WHICH CONTAINS THE DATABASE ACCESS KEY.

M:LDATE (CLOSREC, XOPEN2)

MEMORY VARIABLE WHICH HOLDS THE DATE THE CASE WAS TRANSMITTED TO THE ITEM MANAGER. ORIGINALLY ENTERED UPON TRANSMISSION OF THE CASE.

M:LOT (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE MANUFACTURERS LOT NUMBER. ORIGINALLY CAPTURED FROM BLOCK 16B(3) OF SF 368.

M:MFG (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE MANUFACTURERS PART NUMBER. ORIGINALLY CAPTURED FROM BLOCK 16B(3) OF SF 368.

M:NOMEN (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE NOMENCLATURE OF THE MATERIAL BEING REPORTED IN THE QDR. ORIGINALLY CAPTURED FROM BLOCK 6 OF THE SF 368.

M:NSN (C-REASGN, XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE NATIONAL STOCK NUMBER. ORIGINALLY CAPTURED FROM BLCCK 5 OF SF 368.

M:NUM (XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE CONTRACT NUMBER UNDER WHICH THE REPORTED MATERIAL WAS RECEIVED. ORIGINALLY CAPTURED FROM BLOCK 10 OF THE SF 368.

M:O9Q (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE GSA REGION CODE FOR 9Q ITEMS.

M:OPEN (CLOSREC, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DATE THE CASE WAS OPENED. ORIGINALLY ENTERED BY THE SYSTEM UPON NEW CASE INPUT.

M:ORG (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE ORIGIN CODE.

M:OTF (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE OPERATING TIME AT FAILURE. ORIGINALLY CAPTURED FROM BLOCK 13 OF THE SF 368.

M:OVER (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE DATE OF MANUFACTURE/ OVERHAUL. ORIGINALLY CAPTURED FROM BLOCK 12 OF THE SF 368.

M:QTYDEF (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE QUANTITY OF MATERIAL REPORTED AS DEFICIENT. ORIGINALLY CAPTURED FROM BLOCK 15C OF THE SF 368.

M:QTYINS (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE QUANTITY OF MATERIAL INSPECTED BY THE REPORTING ACTIVITY. ORIGINALLY CAPTURED FROM BLOCK 15B OF THE SF 368.

M:QTYREC (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE QUANTITY OF MATERIAL RECEIVED BY THE REPORTING ACTIVITY. ORIGINALLY CAPTURED FROM BLOCK 15A OF THE SF 368.

M:QTYSTK (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE QUANTITY OF MATERIAL IN STOCK AT THE REPORTING ACTIVITY WHEN THE QDR WAS SUBMITTED. ORIGINALLY CAPTURED FROM BLOCK 15D OF THE SF 368.

M:RDATE (CLOSREC, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DATE RECEIVED FROM ORIGIN. ORIGINALLY CAPTURED FROM THE MAILROOM TIMESTAMP ON RECEIPT DATE.

M:REC1 (CLOSREC, XDBHNDLR, XOPEN2)

MEMORY VARIABLE WHICH IDENTIFIES THE RECORD NUMBER OF THE RECORD BEING PROCESSED. THIS IS A SYSTEM GENERATED VARIABLE.

M:REOPEN (CLOSREC, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DATE A CLOSED CASE IS REOPENED. ORIGINALLY ENTERED UPON REOPENING A CLOSED CASE.

M:REPCON (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE REPORT CONTROL NUMBER. ORIGINALLY CAPTURED FROM BLOCK 3 OF THE SF 368.

M:REPLY (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE REPLY RECEIVED FROM THE ITEM MANAGER. ORIGINALLY CAPTURED FROM BLOCK 32 OF THE SF 368.

M:RETC (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE RETURN CODE OF THE QDR.

M:RIMDATE (CLOSREC, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE DATE RETURNED FROM THE ITEM MANAGER. ORIGINALLY ENTERED UPON RECEIPT OF A RESPONSE FROM THE ITEM MANAGER.

M:SCR (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE SCREENING CODE.

M:SCRQTY (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE SCREENING QUANTITY.

M:SM (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE SUPPLY MANAGEMENT INFORMATION CODE. ORIGINALLY CAPTURED FROM BLOCK 5 OF THE SF 368.

M:STATUSC (XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE STATUS CODE.

M:TIME (LOGON, XDBHNDLR, XOPEN2)

MEMORY VARIABLE WHICH HOLDS THE TIMESTAMP. THIS IS A SYSTEM VARIABLE USED TO LOCK INDIVIDUAL RECORDS.

M:TYPE (CLOSREC, C-REASGN, XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE CODE SPECIFYING THE DATABASE HANDLER ACCESS CODE.

M:UI (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE UNIT OF ISSUE FOR THE REPORTED MATERIAL. ORIGINALLY CAPTURED FROM THE ML-N BASED ON THE NSN BEING REPORTED.

M:UIC (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE UNIT IDENTIFICATION CODE OF THE ACTIVITY SUBMITTING THE QDR. ORIGINALLY CAPTURED FROM BLOCK 1A OF THE SF 368.

M:UPRC (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH HOLDS THE UNIT PRICE FOR THE REPORTED MATERIAL. ORIGINALLY CAPTURED FROM THE ML-N BASED ON THE REPORTED NSN.

M:VLC (CLOSREC, XDBHNDLR, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE VENDOR LIABILITY CODE.

```
M:WHO                      (C-REASGN, XDBHNDLR)

MEMORY VARIABLE WHICH IDENTIFIES THE INDIVIDUAL CREATING
THE RECORD.  THIS IS A SYSTEM VARIABLE WHICH IS CAPTURED
FROM THE SYSTEM LOGON.


M:WNTY                     (XOPEN2, XUPDAT, XDBHNDLR)

MEMORY VARIABLE WHICH IDENTIFIES THE WARRANTY STATUS OF THE
ITEM.  ORIGINALLY CAPTURED FROM BLOCK 19 OF SF 368.


M:WUC                      (XDBHNDLR, XOPEN2, XUPDAT)

MEMORY VARIABLE WHICH IDENTIFIES THE WORK UNIT CODE.
ORIGINALLY CAPTURED FROM BLOCK 20 OF THE SF 368.
```

APPENDIX B

QDR DATABASE FILE STRUCTURES

STRUCTURE FOR FILE: D:OPEN1 .DBF

FLD	NAME	TYPE	WIDTH	DEC
001	CASE	C	007	
002	CCG	C	002	
003	NSN	C	013	
004	CAT	C	001	
005	NCMEN	C	019	
006	UIC	C	006	
007	UI	C	002	
008	QTYDEF	N	006	
009	UPRC	N	009	002
010	EPRC	N	012	002
011	ORG	C	003	
012	DCC	C	001	
013	DOCNO	C	014	
014	DATES	C	046	
015	REPCON	C	012	
016	FSCM	C	006	
017	TIME	C	011	
018	WHO	C	004	
019	NUM	C	017	
020	CR	C	001	
021	SCR	C	003	
022	SM	C	002	
023	O9Q	C	001	
024	DEF	C	002	
025	VIC	C	001	
026	ACTPT	C	011	
027	SCRQTY	N	006	

** TOTAL ** 00219 BYTES

STRUCTURE FOR FILE: D:OPEN2 .DBF

FLD	NAME	TYPE	WIDTH	DEC
001	CASE	C	007	
002	QTYINS	N	006	
003	QTYREC	N	006	
004	QTYSTK	N	006	
005	DEFV	C	001	
006	DEFR	C	001	
007	ITEM	C	001	
008	OVER	C	005	
009	OTF	C	005	
010	GCV	C	001	
011	TIME	C	011	
012	WHO	C	004	
013	DITEM	C	035	
014	CCOST	N	012	002
C15	WNTY	C	001	
016	WUC	C	007	
017	DIS	C	002	

```
018         DETAILS     C              120
019         REPLY       C              120
020         ACTTKN      C              003
021         COSTC       C              001
022         STATUSC     C              002
023         CAUSEC      C              001
024         RETC        C              001
025         ACTDISP     C              001
026         MFG         C              016
027         LOT         C              009
** TOTAL **                     00386  BYTES


          STRUCTURE FOR FILE:  D:CLOSE1  .DBF

FLD         NAME       TYPE           WIDTH          DEC

001         CASE        C              007
002         CCG         C              002
003         NSN         C              013
004         CAT         C              001
005         NOMEN       C              019
006         UIC         C              006
007         UI          C              002
008         QTYDEF      N              006
009         UPRC        N              009            002
010         EPRC        N              012            002
011         ORG         C              003
012         DOC         C              001
013         DOCNO       C              014
014         DATES       C              046
015         REPCON      C              012
016         FSCM        C              006
017         TIME        C              011
018         WHO         C              004
019         NUM         C              017
020         CR          C              001
021         SCR         C              003
022         SM          C              002
023         O9Q         C              001
024         DEF         C              002
025         VIC         C              001
026         ACTPT       C              011
027         SCRQTY      N              006
** TOTAL **                     00219 BYTES


          STRUCTURE FOR FILE:  D:CLOSE2  .DBF

FLD         NAME       TYPE           WIDTH          DEC

001         CASE        C              007
002         QTYINS      N              006
003         QTYREC      N              006
004         QTYSTK      N              006
005         DEFV        C              001
006         DEFR        C              001
007         ITEM        C              001
008         OVER        C              005
009         OTF         C              005
010         GOV         C              001
011         TIME        C              011
```

```
012        WHO        C            004
013        DITEM      C            035
014        CCOST      N            012           002
015        WNTY       C            001
016        WUC        C            007
017        DIS        C            002
018        DETAILS    C            120
019        REPLY      C            120
020        ACTTKN     C            003
021        CCSTC      C            001
022        STATUSC    C            002
023        CAUSEC     C            001
024        RETC       C            001
025        ACTDISP    C            001
026        MFG        C            016
027        LCT        C            009
** TOTAL **                   00386 BYTES


           STRUCTURE FOR FILE:  D:COG     .DBF

FLD        NAME       TYPE         WIDTH         DEC

001        COG        C            002
002        IM         C            007
003        COUN       N            004
** TOTAL **                   00014  BYTES


           STRUCTURE FOR FILE:  D:TECHCODE.DBF

FLD        NAME         TYPE          WIDTH         DEC

001        NAME         C             020
002        TECHCODE     C             004
003        PSWD         C             008
004        LOGGED       C             001
005        ASSIGNED     N             004
006        ACTIVE       N             004
007        TRANSMIT     N             004
008        RESPOND      N             004
009        CLOSED       N             004
** TOTAL **                   00054  BYTES


           STRUCTURE FOR FILE:  D:ADDRESS .DBF

FLD        NAME       TYPE         WIDTH         DEC

001        IM         C            007
002        TITLE      C            018
003        COMMAND    C            040
004        COMMAND2   C            040
005        ATTN       C            015
006        STREET     C            020
007        CITY       C            020
008        STATE      C            002
009        ZIP        C            005
010        COUNT      N            004
```

```
** TOTAL **                 00172  BYTES


          STRUCTURE FOR FILE:  D:WHERDIS .DBF

FLD          NAME        TYPE           WIDTH         DEC

001          CODE         C              002
002          TEXT         C              020

** TOTAL **                 00023 BYTES


          STRUCTURE FOR FILE:  D:FILESTAT.DBF

FLD          NAME        TYPE           WIDTH         DEC

001          OPEN1        C              004
002          OPEN2        C              004
003          CLOSE1       C              004
004          CLOSE2       C              004

** TOTAL **                 00017 BYTES


          STRUCTURE FOR FILE:  D:BIWKSTAT.DBF

FLD          NAME        TYPE           WIDTH         DEC

001          YEAR         C              004
002          TOTALS       N              005
003          LAST         C              005

** TOTAL **                 00015 BYTES
```

APPENDIX C

DATA ELEMENT DEFINITIONS

This provides a list of the Data Element pictures that are used in various QDR programs. The column labeled "Data Element" contains a short description of the actual Element that the Variable represents. The column "ID" contains the variable name associated with the Data Element. The ID is further defined in Appendix A. The "Type" is either character "C" or numeric "N", with a length as shown. The "Picture" shows the size and character type of each Data Element. Standard representations are used:

- 'A' - Alphabetic
- '9' - Numeric, 0-9
- 'X' - Either numeric or alphabetic

Data Element	ID	Picture	Type
Case Number	M:CASE	'999999A'	A7
Cognizance	M:CCG	'XX'	A2
Category	M:CAT	'9'	A1
Nomenclature	M:NCMEN	'XXX...XX'	A19
UIC	M:UIC	'AXXXXX'	A6
Unit of issue	M:UI	'AA'	A2
Unit Price	M:UPPC	'999999.99'	N9
Quantity Def.	M:QTYDEF	'999999'	N6
Quantity Insp.	M:QTYINS	'999999'	N6
Quantity Recvd	M:QTYREC	'999999'	N6
Qty in Stock	M:QTYSTK	'999999'	N6
Extended Price	M:EPRC	'999999999.99'	N12
Origin	M:ORG	'XXX'	A3
Deficiency Ver	M:DEFV	'A'	A1
Deficiency Resp	M:DEFR	'A'	A1
Type Document	M:DCC	'9'	A1
Discovery Date	M:DDATE	'99999'	A5
Date Rcvd fm Org	M:RDATE	'99999'	A5
Open Date	M:OPEN	'99999'	A5
Date Ltr Typed	M:LDATE	'99999'	A5
Screen Rpt Date	M:SCFDAT	'99999'	A5
Interim Resp Dat	M:IRDATE	'99999'	A5
Date rtn fm IM	M:RIMDAT	'99999'	A5
Close Date	M:CLOSE	'99999'	A5
Reopen Date	M:REOPEN	'99999'	A5
Dates concat'ned	M:DATES	See note 1	A46
Date change ID	M:DATECI	'X' See note 2	A1
Report Control #	M:REPCON	See note 3	A12
Document Number	M:DOCNO	See note 4	A14
FSCM	M:FSCM	'XXXXXX'	A6
Time Stamp	M:TIME	'99999999999'	A11
Analyst Code	M:WHC	'XXXX'	A4
New-Repair/Ovhl	M:ITEM	'A'	A1
Date Mfg/Ovhl	M:OVER	'99999'	A5
Opn Time-Failure	M:OTF	'A9999'	A5
Govnment Furnish	M:GOV	'X'	A1
Work Unit Code	M:WUC	'XXXXXXX'	A7

Discovery Code	M:DIS	'AA'	A2
Details Section	M:DETAILS	'XX...198..X'	A198
Return Code	M:RETC	'9'	A1
Record Variable	M:REC1	'99999A'	A6
Contract Number	M:NUM	See note 5	A17
Credit Code	M:CR	'A'	A1
Screening Code	M:SCF	'XXX'	A3
Reply Section	M:REPLY	'XX..198..X'	A198
Action Code	M:ACTTKN	'AAA'	A3
Cost Code	M:CCSTC	'A'	A1
Status Code	M:STATUSC	'AA'	A2
Cause Code	M:CAUSEC	'A'	A1
Action Disp'n	M:ACTDISP	'A'	A1
SMIC	M:SM	'AX'	A2
9Q Region Code	M:09Q	'X'	A1
Type Defect	M:DEF	'99'	A2
Vendor Liab Code	M:VLC	'A'	A1
Action Point	M:ACTPT	'AXXXXX99999'	A11
Part Number	M:MFG	'XX..16..XX'	A16
Lot/ser/batch	M:LCT	'XXXXXXXXX'	A9
NSN	M:NSN	See note 6	A13
Type/Model/Ser	O:MODEL	'XXXXXXX'	A7
Def Item Ser #	O:DEFSER	'XXXXXX'	A6
Higher Assy	O:HASSY	'XXXXXXXXXX'	A10
Sub assembly	O:SASSY	'XXXXXXXXXXXX'	A12
Def Item	M:DITEM	'XXXX 35 XXXX'	A35
Est Corr Cost	M:CCCST	'999999999.99	N12
Warranty	M:WNTY	'A'	A1
Screen Quantity	M:SCRQTY	'999999'	N6

NOTES:

1. All dates, followed by M:DATECI, are concatenated into the variable M:DATES for storage into the databases. This is necessary to minimize the number of variables active in the CDR programs, and due to the 32 field limit per database.
2. This variable is the last field in M:DATES. Values are either a blank, "N", or "*". "N" depicts a newly formed case that has not been accounted for in the statistics. A "*" shows that a date was changed during a case update. These are blanked after statistics are calculated.
3. Report Control Number (RCN) 'XXXXXX-99-9999'
4. M:DOCNO PICTURE 'XXXXXX-9999-9999'
5. Contract number picture 'XXXXXX-99-A-9999-9999'
6. NSN (FSC+NATO+FIIN) '9999-XX-XXX-9999'

APPENDIX D

QDR PROGRAMS

I. LOGON MODULE

```
************************************************************
**                                                        **
**   Date: 23 Nov 1983                                    **
**   Version: 1.0                                         **
**   Module Name: LOGON                                   **
**   Module Purpose: Provide Password Logon Facilities    **
**                   for the QDR System                   **
**                                                        **
**   Module Interface Definition                          **
**      Inputs: None                                      **
**      Outputs: C:JULIAN, C:WHO                          **
**                                                        **
**   Module Processing Narrative Description:             **
**         Accepts The Password From The Operator, Val-   **
**         idates The Password, and Calls The Necessary   **
**         Modules                                        **
**                                                        **
**   Superordinate Modules: None                          **
**   Subordinate Modules: SUPMENU1, MENU1, LOCKOUT        **
**   Author: R. G. NICHOLS                                **
**                                                        **
************************************************************

SET TALK OFF
SET BELL OFF
SET COLOR TO 112,3
SET EXACT ON
SET COLON OFF
STORE T TO V:CONTINUE

*****  Accept ID of Person Logging On To The System

DO WHILE V:CONTINUE
   ERASE
   STORE '     ' TO C:WHO
   @ 10,29 SAY 'ENTER YOUR ACCESS I.D.'
   @ 11,37 GET C:WHO
   READ
   STORE !(C:WHO) TO C:WHO
   IF C:WHO = 'QUIT'
      QUIT
   ENDIF

*****  Validate ID To See If A Valid User Is Logging On

   USE D:TECHCODE INDEX D:TECH
   FIND &C:WHO
   DO WHILE # = 0
      @ 13,28 SAY 'ACCESS I.D. NOT ON FILE'
      @ 14,33 SAY 'PLEASE REENTER'
      STORE '     ' TO C:WHO
      @ 11,37 GET C:WHO
      READ
      STORE !(C:WHO) TO C:WHO
      IF C:WHO = 'QUIT'
         QUIT
      ENDIF
      FIND &C:WHO
   ENDDO
   STORE F TO V:LOGGED
```

```
*****  Check To See If Previously Logged On

   IF LOGGED <> ' '
      @ 16,28 SAY 'USER CURRENTLY LOGGED ON'
      @ 17,32 SAY 'LOGON TERMINATED'
      @ 23,0  SAY ' '
      STORE T TO V:LOGGED
   ENDIF

***** Allow Three Attempts to Enter The Correct Password

   IF .NOT. V:LOGGED
      STORE 2 TO V:ATTEMPTS
      @ 16,30 SAY 'ENTER YOUR PASSWORD'
      @ 17,30 SAY '  FOLLOWED BY <CR>'
      SET CONSOLE OFF
      @ 19,35 SAY ' '
      STORE T TO V:TRUE
      DO WHILE V:TRUE
         STORE '         ' TO V:PSWD
         ACCEPT TO V:PSWD
         IF V:ATTEMPTS = 0 .AND. PSWD <> V:PSWD
            SET CONSOLE ON

*****  If Three Unsuccessful Passwords Are Entered, Call
*****  For System Lockup Program

            DO C:LOCKOUT
         ELSE
            IF PSWD <> V:PSWD
               STORE V:ATTEMPTS-1 TO V:ATTEMPTS
               @ 21,27 SAY 'INCORRECT PASSWORD ENTERED'
               @ 19,35 SAY ' '+ CHR(7)
            ELSE
               STORE F TO V:TRUE
            ENDIF
         ENDIF
      ENDDO
      SET CONSOLE ON
      REPL LOGGED WITH '*'
      USE
      SET EXACT OFF
      RELEASE ALL LIKE V:*

*****  If Either Supervisor is Logging On The System Call
*****  For Supervisor Menu To Be Displayed Otherwise
*****  Display General User Menu

      IF C:WHO ='0000' .OR. C:WHO='0001'
         DO C:SUPMENU1
      ELSE
         DO C:MENU1
      ENDIF

      STORE T TO V:CONTINUE

*****  Allow The Logged User To Logoff

      USE D:TECHCODE INDEX D:TECH
      FIND &C:WHO
      IF # = 0
         ERASE
         @ 10,32 SAY 'LOG OFF FAILURE'+CHR(7)
         @ 11,27 SAY 'CONTACT SYSTEM SUPERVISOR'
         @ 23,26 SAY 'STRIKE ANY KEY TO CONTINUE '
         WAIT
      ELSE
         REPL LOGGED WITH ' '
         USE
```

```
*****   Clear The Screen, Read The Clock And Display The
*****   Logged Off Message and The Time

          ERASE
          STORE " " TO V:DUMMY
          POKE 61440, 180, 44, 205, 33, 137, 22, 13, 240,;
                      137, 14, 15, 240, 195
          SET CALL TO 61440
          CALL V:DUMMY
          STORE STR(PEEK(61456),2) TO V:HOUR
          STORE STR(PEEK(61455),2) TO V:MIN
          STORE STR(PEEK(61454),2) TO V:SEC
          IF $(V:HOUR,1,1)=" "
             STORE "0" +$(V:HOUR,2,1) TO V:HOUR
          ENDIF
          IF $(V:MIN,1,1)=" "
             STORE "0"+$(V:MIN,2,1) TO V:MIN
          ENDIF
          IF $(V:SEC,1,1)=" "
             STORE "0"+$(V:SEC,2,1) TO V:SEC
          ENDIF
          STORE V:HOUR +":"+V:MIN+":"+V:SEC TO M:TIME
          @  8,30 SAY 'LOG OFF COMPLETED AT'
          @ 10,36 SAY M:TIME
          RELEASE ALL
          STORE T TO V:CONTINUE
       ENDIF
    ENDIF
    @ 22,28 SAY 'PRESS ANY KEY TO CONTINUE '
    WAIT
    USE
ENDDO

***** NOTE:  This Program Will Continue To Accept Logons
*****        Until The Quit Command Is Entered

***** END OF PROGRAM
```

II. LOCKOUT

```
**********************************************************************
**                                                                  **
**   Date: 23 Nov 1983                                              **
**   Version: 1.0                                                   **
**   Module Name: LOCKOUT                                           **
**   Module Purpose: To Lock The System After An Illegal            **
**                   Logon Attempt                                  **
**                                                                  **
**   Module Interface Definition                                    **
**      Inputs: None                                                **
**      Outputs: None                                               **
**                                                                  **
**   Module Processing Narrative Description:                      **
**         This Program Will Display An Illegal Logon               **
**         Message and Will Sound The Buzzer                        **
**                                                                  **
**   Superordinate Modules: LOGON                                   **
**   Subordinate Modules: None                                      **
**   Author: R. G. NICHOLS                                          **
**                                                                  **
**********************************************************************

SET TALK OFF
SET COLOR TO 4,4
STORE T TO V:CONTINUE
STORE T TO V:TOGGLE

*****  Clear The Screen and Display The Illegal Access
*****  Message

ERASE
DO WHILE V:CONTINUE
   STORE 5 TO V:INNER
   DO WHILE V:INNER > 0
      IF V:TOGGLE
         @ 10,29 SAY 'ILLEGAL ACCESS ATTEMPT'
         @ 21, 0 SAY ' ' + CHR(7)
      ELSE
         @ 10,29 SAY '                      '
         @ 21, 0 SAY ' '
      ENDIF
      STORE V:INNER-1 TO V:INNER
   ENDDO
   IF V:TOGGLE
      STORE F TO V:TOGGLE
   ELSE
      STORE T TO V:TOGGLE
   ENDIF
ENDDO

***** NOTE: The System Must Be Rebooted To Exit From
*****       An Illegal Access Attempt

***** END OF PROGRAM
```

III. MAIN PROCESSING MODULE

```
************************************************************
**                                                        **
**   DATE: 15 NOVEMBER 1983                               **
**   VERSION: 1.0                                         **
**   MODULE NAME: MENU1                                   **
**   MODULE PURPOSE: PROVIDE THE USER A MENU OF ALL       **
**          PROCESSING OPTIONS AVAILABLE TO HIM/HER IN    **
**          THE QDR SYSTEM.                               **
**   MODULE INTERFACE DEFINITION                          **
**      INPUTS: C:WHO                                     **
**      OUTPUTS: C:JULIAN                                 **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:             **
**                                                        **
**          DISPLAYS ALL PROCESSING OPTIONS AVAILABLE TO  **
**          THE USER. UPON USER SELECTION, CALLS THE      **
**          APPROPRIATE MODULE FOR CONTINUED PROCESSING   **
**          ALLOWS USER TO EXIT FROM THE QDR SYSTEM.      **
**                                                        **
**   SUPERORDINATE MODULES: LOGON                         **
**   SUBORDINATE MODULES: OPEN,CLOSE,UPDAT,LTR,RPTMENU,   **
**                        QUERY                           **
**   AUTHOR: J.G. BOYNTON & R.G. NICHOLS                  **
**                                                        **
************************************************************

***** THIS SECTION ACCESSES THE SYSTEM DATE

STORE   TO V:DUMMY
POKE 61440, 180,42, 205, 33, 137, 22, 13, 240, 137,;
     14, 15, 240, 195
SET CALL TO 61440
CALL V:DUMMY
STORE PEEK(61454) TO V:MM
STORE PEEK(61453) TO V:DD
STORE PEEK(61456)*256+PEEK(61455)-1900 TO V:YY

***** THIS SECTION CONVERTS THE SYSTEM DATE TO A JULIAN DATE

DO CASE
   CASE V:MM = 01
      STORE V:DD TO V:DAY
   CASE V:MM = 02
      STORE V:DD + 31 TO V:DAY
   CASE V:MM = 03
      STORE V:DD + 59 TO V:DAY
   CASE V:MM = 04
      STORE V:DD + 90 TO V:DAY
   CASE V:MM = 05
      STORE V:DD + 120 TO V:DAY
   CASE V:MM = 06
      STORE V:DD + 151 TO V:DAY
   CASE V:MM = 07
      STORE V:DD + 181 TO V:DAY
   CASE V:MM = 08
      STORE V:DD + 212 TO V:DAY
   CASE V:MM = 09
      STORE V:DD + 243 TO V:DAY
   CASE V:MM = 10
      STORE V:DD + 273 TO V:DAY
   CASE V:MM = 11
      STORE V:DD + 304 TO V:DAY
```

```
   CASE V:MM = 12
      STCRE V:DD + 334 TO V:DAY
ENDCASE
IF INT(V:YY/4)*4 = V:YY .ANC. V:DAY >= 60
   IF V:MM= 02 .AND. V:DD= 29
      STOFE V:DAY TO V:DAY
   ELSE
      STOFE V:DAY + 1 TO V:DAY
   ENDIF
ENDIF
STORE V:YY * 1000 + V:DAY TO V:JULIAN
STORE STR(V:JULIAN,5) TO C:JULIAN
RELEASE ALL EXCEPT C:*

STORE T TO V:CONTINUE
DO WHILE V:CONTINUE
ERASE
SET TALK OFF
STORE ' ' TC V:CHOICE
TEXT



               WEICOME TO THE QDR AUTOMATED TRACKING SYSTEM


                        1 - OPEN NEW RECORD
                        2 - CLCSE RECORD
                        3 - UPDATE RECORD
                        4 - CRIGINATE LETTER
                        5 - REPORT GENERATION
                        6 - QUERY
                        7 - EXIT FROM THE SYSTEM


                        ENTER YOUR CHOICE

ENDTEXT
@ 19,30 GET V:CHOICE
READ
?
IF    V:CHCICE >= 1 .AND. V:CHOICE <= 7

?
     DO CASE
         CASE V:CHOICE= 1
              RELEASE ALL EXCEPT C:*
              DO C:XCPEN2.PRG
         CASE V:CHOICE= 2
              RELEASE ALL EXCEPT C:*
              DO C:CICSREC.PRG
         CASE V:CHOICE= 3
              RELEASE ALL EXCEPT C:*
              DO C:XUPDAT.PRG
         CASE V:CHOICE= 4
              RELEASE ALL EXCEPT C:*
              DO C:LTR.PRG
         CASE V:CHOICE= 5
              RELEASE ALL EXCEPT C:*
              DO C:RPTMENU
         CASE V:CHOICE=6
              RELEASE ALL EXCEPT C:*
              DO C:QUERY.PRG
         CASE V:CHOICE=7
              RELEASE ALL EXCEPT C:*
              RETURN
     ENDCASE
```

```
        STORE T TO V:CONTINUE
        STORE ' ' TO V:CHOICE
ELSE
   @ 21,20 SAY ' < PLEASE ANSWER WITH  1 - 7 ONLY >'
   @ 23,20 SAY '<PRESS ANY KEY TO CONTINUE>'
   WAIT
ENDIF <V:CHCICE>

ENDDO <V:CONTINUE>

***** END OF PROGRAM
```

IV. NEW CASE INPUT MODULE

```
******************************************************************
**                                                              **
**   DATE: 18 NOV 1983                                          **
**   VERSION: 1.0                                               **
**   MODULE NAME: OPEN                                          **
**   MODULE PURPOSE: NEW QDR CASE CREATION                      **
**   MODULE INTERFACE DEFINITION                                **
**      INPUTS: C:WHO, C:JULIAN, V:JULDATE                      **
**      OUTPUTS: M:CASE, V:MM, V:DD, V:YY, AND ALL OF THE       **
**               DATA ELEMENTS IN OPEN1 AND OPEN2.              **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                   **
**                                                              **
**         PROMPTS THE USER FOR INPUT OF ALL DATA FROM          **
**         SF 368 IN ORDER TO CREATE A NEW QDR CASE.            **
**         VALIDATION OF DATA ITEMS OCCURS UPON INPUT AND       **
**         IS BASED UPON CURRENT GE TIMESHARE VALIDATION,       **
**         AS MODIFIED BY FMSO TECHNICAL BRANCH. DATES          **
**         ARE CAPTURED FOR MANAGEMENT STATISTICS.              **
**                                                              **
**   SUPERORDINATE MODULES: MENU1                               **
**   SUBORDINATE MODULES: OJULIAN, XDBHNDLR                     **
**   AUTHOR: J.G. BOYNTON                                       **
**                                                              **
******************************************************************

STORE T TO O:TRUE
DO WHILE O:TRUE
ERASE
  STORE ' 'TO O:CHOICE
  TEXT
                           ***** OPEN NEW CASE *****


                     THIS PROGRAM ENABLES YOU TO OPEN A

                                NEW QDR CASE



                              1 - CONTINUE

                              2 - RETURN TO MENU
  ENDTEXT
  @ 20,30 SAY ' ' GET O:CHOICE
  READ
  DO WHILE O:CHOICE <> '1' .AND. O:CHOICE <> '2'
      @ 23,20 SAY 'ANSWER WITH A 1 OR 2 ONLY'
      @ 20,30 SAY ' ' GET O:CHOICE
      READ
  ENDDO
  ERASE
  IF O:CHOICE = '2'
     RELEASE ALL EXCEPT C:*
     RETURN
  ENDIF

***** INITIALIZE MEMORY VARIABLES

     STORE '                    ' TO O:KEY
```

```
     STORE '        'TO M:CASE
     STORE '  ' TO M:COG
     STORE '  ' TO M:SM
     STORE ' ' TO M:CAT
     STORE '                   ' TO M:NOMEN
     STORE '      ' TO M:UIC
     STORE 0 TO M:QTYREC
     STORE 0 TO M:QTYINS
     STORE 0 TO M:QTYDEF
     STORE 0 TO M:QTYSTK
     STORE '                     ' TO M:NUM
     STORE '     ' TO M:OPEN
     STORE '     ' TO M:OVER
     STORE '                ' TO M:REPCON
     STORE '      ' TO M:FSCM
     STORE '           ' TO M:TIME
     STORE '                ' TO M:MFG
     STORE '         ' TO M:LOT
     STORE ' ' TO M:ITEM
     STORE '     ' TO M:OTF
     STORE ' ' TO M:GCV
     STORE '                ' TO M:DOCNO
     STORE '  ' TO M:DEF
     STORE ' ' TO M:WNTY
     STORE '      ' TO O:DDATE
     STORE '       ' TO O:MODEL
     STORE '      ' TO O:DEFSER
     STORE '          ' TO O:HASSY
     STORE '            ' TO O:SASSY

***** THIS SEQUENCE CALCULATES THE UPPER AND LOWER YEARS
***** FOR INPUT AND IS BASED ON THE CURRENT JULIAN DATE
***** C:JULIAN.  O:LLIMIT= YEAR MINUS TWO YEARS
***** O:ULIMIT = YEAR PLUS ONE YEAR

STORE $(C:JULIAN,1,2) TO TEMP1
STORE VAL(TEMP1) TO TEMP1A
STORE VAL('2') TO LOW
STORE VAL('1') TO HIGH
STORE TEMP1A-LOW TO LLMT
STORE TEMP1A+HIGH TO ULMT
STORE STR(LLMT,2) TO C:LLIMIT
STORE STR(ULMT,2) TO C:ULIMIT
RELEASE TEMP1,TEMP1A,LOW,HIGH,LLMT,ULMT


*****  START OF THE INPUT FOR THE NSN

STORE '      ' TO O:RDATE
STORE T TO O:ANSWER
DO WHILE O:ANSWER
@ 5,20 SAY '******** ENTER DATA FOR THE NEW CASE ********'
@ 6,20 SAY '********        FROM   SF 368        ********'

STORE T TO O:RDATET
DO WHILE O:RDATET
     @ 8,20 SAY 'DATE RECEIVED BY FMSO   MMDDYY' ;
                 GET O:RDATE PICTURE '999999'
     READ
     IF $(O:RDATE,1,2) <'01' .OR. $(O:RDATE,1,2) >'12';
        .OR.$(O:RDATE,3,2) <'01' .OR. $(O:RDATE,3,2) > '31';
        .OR. $(O:RDATE,5,2) < O:LLIMIT ;
        .OR. $(O:RDATE,5,2) > C:ULIMIT
             @ 23,30 SAY 'DATE OUT OF RANGE'
     ELSE
       .STORE F TO O:RDATET
     ENDIF
ENDDO <O:RDATE>
```

```
@ 23,30 SAY '                                    '

***** ENTER THE CALL TC C:OJULIAN TO CHANGE MMDDYY TO
***** JUIIAN FORMAT, STORE TO M:RDATE THEN RELEASE O:RDATE

STORE VAI($(O:RDATE,1,2)) TC V:MM
STORE VAI($(O:RDATE,3,2)) TO V:DD
STORE VAI($(O:RDATE,5,2)) TO V:YY
DO C:CJUIIAN
STORE V:JULDATE TO M:RDATE
RELEASE AII LIKE V:*
RELEASE C:RDATET
STORE T TO C:CAT
DO WHILE O:CAT
     @ 10,20 SAY 'CAT'
     @ 10,50 SAY ' ' GET M:CAT PICTURE '9'
     READ
     IF M:CAT ='1' .CR. M:CAT ='2'
        STORE F TO O:CAT
     ELSE
        @ 23,20 SAY ' 1 OR 2 ONLY'
     ENDIF
ENDDO O:CAT
@ 23,20 SAY '                              '
RELEASE C:CAT

STORE T TO C:COG1
STORE T TO C:COG2
DO WHILE O:COG1 .OR. C:COG2
   DC WHILE O:COG1

      @ 12,20 SAY 'COG'
      @ 12,50 SAY ' ' GET M:COG PICTURE '9X'
      READ
        IF $(M:COG,2,1) = ' '
         @ 23,20  SAY ' NO BLANKS IN 2D POSITION'
      ELSE
         STORE F TO C:COG1
         STCRE !(M:CCG) TO M:COG
      ENDIF
   ENDDO <O:COG1>
   @ 23,20 SAY '                                            '

***** CHECKS THAT COG IS VALID IN CURRENT COG TABLE... MUST
***** BE VALID TO CONTINUE

       USE D:COG INDEX D:COGS
       FIND  &M:COG
       IF # = 0
          @ 23,10 SAY ' COG INVALID - ENTER CORRECTED ENTRY'
          STORE T TO C:COG1
       EISE
          STORE F TO C:COG2
       ENDIF
  ENDDO <O:COG1 & O:CCG2>
  RELEASE O:COG1, O:CCG2
  @ 23,10 SAY '                                             '

@ 14,20 SAY 'NSN     '
@ 14,50 SAY ' 'GET O:KEY PICTURE '9999-XX-XXX-9999'
READ

STORE T TO O:NATOT
DO WHIIE C:NATOT
    IF $(O:KEY,5,1) =' ' .OR. $(O:KEY,6,1) = ' '
       @ 23,20 SAY ' NATO CODE MAY NOT HAVE BLANKS'
       @ 14,50 SAY ' ' GET O:KEY PICTURE '9999-XX-XXX-9999'
       READ
    ELSE
```

```
       @ 23,20 SAY '                                  '
       STORE F TO O:NATOT
    ENDIF
ENDDO  <O:NATOT>
RELEASE C:NATOT
@ 23,20 SAY '                                               '

STORE T TO C:FIINT
DO WHILE O:FIINT
    IF $(O:KEY,7,1)  = ' ' .OR. $(O:KEY,8,1)=' ';
       .OR. $(O:KEY,9,1)=' '
       @ 23,40 SAY 'NO BLANKS IN THE FIRST 3 POSITIONS'
       @ 14,50 SAY ' ' GET O:KEY PICTURE '9999-XX-XXX-9999'
       READ
    ELSE
       @ 23,40 SAY '                                        '
       STORE F TO O:FIINT
    ENDIF FIINT
ENDDO  <C:FIINT>
RELEASE O:FIINT
@ 23,20 SAY '                                               '

STORE ' ' TO O:REPLY
@ 18,20 SAY '    VERIFY ABOVE INFORMATION '
@ 19,20 SAY ' YOU MAY NOT CHANGE IT AFTER THIS'
@ 20,20 SAY '   WITHOUT STARTING OVER AGAIN'
@ 22,25 SAY ' 1 - CONTINUE   2 - CHANGE   3 - EXIT'
@ 23,40 SAY ' ' GET C:REPLY
READ
IF O:REPLY  = '1'
   STORE F TO O:ANSWER
   ERASE
   @ 23,20 SAY 'SEARCHING FOR ANOTHER CASE WITH THIS NSN'
   RELEASE O:RDATE
ELSE
   IF O:REPLY = '3'
       RELEASE ALL EXCEPT C:*
       RETURN
   ELSE
       CLEAR GETS
       @ 22,25 SAY '                                    '
       @ 23,25 SAY '                                    '
   ENDIF
ENDIF
ENDDO O:ANSWER


STORE $(O:KEY,1,4) +$(O:KEY,6,2) + $(O:KEY,9,3);
      + $(O:KEY,13,4) TO M:KEY
STORE M:KEY TO M:NSN

*****  M:TYPE CODES TELL THE DBHANDLER WHAT TO DO WITH
*****  THE PARAMETERS

STORE '1A' TO M:TYPE
DO C:XDBHNDLR.PRG

***** CONTROL RETURNS TO THIS PROGRAM NOW
***** IF M:TYPE = 9 THEN THERE IS NOT A CURRENTLY
***** OPEN FILE

IF M:TYPE='9'
   STORE T TO O:ONONE
ELSE
   STORE F TO O:ONONE
   STORE M:REC1 TO O:PREVREC

   STORE T TO O:WHICH
   DO WHILE O:WHICH
```

```
      STORE '1I' TO M:TYPE
      DO C:XDBHNDLR.PRG

      IF M:NSN <> M:KEY .OR. EOF
         STORE O:PREVREC TO M:REC1
         STORE '1H' TO M:TYPE
         DO C:XDBHNDLR.PRG
         STORE F TO O:WHICH

***** THESE MUST BE RELEASED OR ELSE TOO MANY VARIABLES
***** WILL BE ASSIGNED (IE >64)

         RELEASE M:UI,M:UPRC,M:WUC,M:ACTDISP,M:ACTPT,;
                 M:DETAILS,M:DEFV,M:DEFR,;
                 M:09C,M:DOC,M:ORG
         STORE '                                         ';
              +'       ' TO M:DATES
         STORE '     ' TO M:CLOSE
         STORE '      ' TO M:UIC
         STORE '      ' TO M:FSCM
         STORE '                     ' TO M:NUM
         STORE '                ' TO M:MFG
         STORE '     ' TO M:REOPEN
         STORE '                ' TO M:DOCNO
         STORE '     ' TO M:SCRDAT
         STORE '                ' TO M:REPCON
         STORE '           ' TO M:TIME
         STORE 0 TO M:QTYINS
         STORE 0 TO M:QTYREC
         STORE 0 TO M:QTYSTK
         STORE 0 TO M:QTYDEF


      ELSE
         STORE M:REC1 TO O:PREVREC
      ENDIF

   ENDDO <O:WHICH>
ENDIF <OPENFILE>
   STORE M:CASE TO O:CCASE

***** SAVE THE CASE FROM THE OPENFILE FOR FUTURE COMPARISON
***** GO TO THE CLOSED DATA BASE AND CHECK FOR CASE WITH
***** THAT NSN

STORE '3A' TO M:TYPE
DO C:XDBHNDLR.PRG

***** CONTROL RETURNS TO THIS PROGRAM
***** IF M:TYPE = 9 THEN THERE IS NOT A CASE IN THE CLOSED
***** FILE

IF M:TYPE= '9'
   STORE T TO O:CNONE
ELSE
   STORE F TO O:CNONE
   STORE M:REC1 TO O:PREVREC

   STORE T TO O:WHICH
   DO WHILE O:WHICH
      STORE '3I' TO M:TYPE
      DO C:XDBHNDLR.PRG
      STORE M:REC1 TO O:PREVREC

      IF M:NSN <> M:KEY .OR. EOF
         STORE O:PREVREC TO M:REC1
         STORE '3H' TO M:TYPE
         DO C:XDBHNDLR.PRG
         STORE F TO O:WHICH
```

```
***** THESE MUST BE RELEASED OR ELSE TOO MANY VARIABLES
***** WILL BE ASSIGNED (IE >64)

          RELEASE M:UI,M:UPRC,M:WUC,M:ACTDISP,M:ACTPT,;
                  M:DETAILS,M:DEFV,M:DEFR,M:09Q,M:DOC,;
                  M:ORG,M:REPLY,M:ACTTKN,M:STATUSC,;
                  M:CAUSEC,RETC

          STORE '                                       ';
                +'        ' TO M:DATES
          STORE '      ' TO M:CLOSE
          STORE '       ' TO M:UIC
          STORE '       ' TO M:FSCM
          STORE '                    ' TO M:NUM
          STORE '               ' TO M:MFG
          STORE '      ' TO M:REOPEN
          STORE '               ' TO M:DOCNO
          STORE '      ' TO M:SCRDAT
          STORE '               ' TO M:REPCON
          STORE '           ' TO M:TIME
          STORE 0 TO M:QTYINS
          STORE 0 TO M:QTYREC
          STORE 0 TO M:QTYSTK
          STORE 0 TO M:QTYDEF

       ELSE
          STORE M:REC1 TO O:PREVREC
       ENDIF

    ENDDO <O:WHICH>
    STORE M:CASE TO O:CCASE
ENDIF <CLOSEFILE>

***** COMPARE THE VALUES OF CASE NUMBER FROM OPEN AND
***** CLOSE, AND USE THE LARGEST ONE FOR SUFFIX
***** CALCULATION

       IF O:OCASE > O:CCASE
          STORE O:OCASE TO M:CASE
          RELEASE O:CCASE,O:OCASE
       ELSE
          STORE O:CCASE TO M:CASE
          RELEASE O:OCASE,O:CCASE
       ENDIF

***** ONLY GO INTO THE NEXT IF-ENDIF WHERE THE NSN WAS NOT
***** FOUND IN EITHER THE OPEN OR THE CLOSED FILE

IF O:ONONE .AND. O:CNONE

ELSE

***** CALCULATE SUFFIX FOR THE ADDITIONAL CASE FOR THE NSN

      STORE $(M:CASE,7,1) TO O:LAST
      IF O:LAST = ' '
         STORE $(M:CASE,1,6) + 'A' TO M:CASE
      ELSE
         STORE RANK(O:LAST) +1 TO O:SUFFIX
         STORE CHR(O:SUFFIX) TO O:LETTER
         STORE $(M:CASE,1,6) + O:LETTER TO M:CASE
      ENDIF
ENDIF


ENDIF
RELEASE O:LAST,O:LETTER,O:KEY,O:PREVREC,O:ONONE,O:CNONE,O:WHICH
ERASE
```

```
*****  START OF NEW CASE DATA ENTRY

@  0,1 SAY 'SF368'
@  1,2 SAY '5.     NSN                                    '
@  2,2 SAY '       CATEGORY                               '
@  3,2 SAY '       SMIC                                   ' GET M:SM ;
       PICTURE 'AX'
@  4,2 SAY '1A.    UIC                                    ' GET M:UIC
@  5,2 SAY '3.     REPORT CONTROL
          ':
       GET M:REPCON PICTURE 'XXXXXX-99-9999'
@  6,2 SAY '4.     DATE DISCOVERED    MMDDYY      ';
       GET C:DDATE PICTURE 'XXXXXX'
@  7,2 SAY '6.     NOMENCLATURE                   ';
       GET M:NOMEN PICTURE 'XXXXXXXXXXXXXXXXXXX'
@  8,2 SAY '7.     FSCM                    <O>    ';
       GET M:FSCM PICTURE 'XXXXXX'
@  9,2 SAY '8.     MFG. PART NUMBER        <O>    ';
       GET M:MFG PICTURE 'XXXXXXXXXXXXXXXXXX'
@ 10,2 SAY '9.     SERIAL/LOT/BATCH        <O>    ';
       GET M:LOT PICTURE 'XXXXXXXXX'
@ 11,2 SAY '10.    CONTRACT/PO             <O>    ';
       GET M:NUM PICTURE 'XXXXXX-99-A-XXXX-XXXX'
@ 12,2 SAY '       DOCUMENT    NUMBER      <O>    ';
       GET M:DOCNO PICTURE 'XXXXXX-9999-9999'
@ 13,2 SAY '11.    ITEM         N OR O     <O>    ';
       GET M:ITEM PICTURE 'A'
@ 14,2 SAY '12.    DATE MFG/REP/OVHL       <O>    ';
       GET M:OVER PICTURE '99999'
@ 15,2 SAY '13.    OPN TIME AT FAILURE     <O>    ';
       GET M:OTF PICTURE 'AXXXX'
@ 16,2 SAY '14.    GOV FURNISHED MATL      <O>    ';
       GET M:GOV PICTURE 'X'
@ 17,2 SAY '15.    QTY: REC/INSP/DEF/STK          ';
       GET M:QTYREC PICTURE '999999'
@ 18,2 SAY '16A1. TYPE/MODEL/SERIES        <O>    ' GET O:MODEL
@ 19,2 SAY '  A2. SERIAL NUMBER            <O>    ' GET O:DEFSER
@ 20,2 SAY '  B.   NEXT HIGHER ASSY        <O>    ' GET O:HASSY
@ 21,2 SAY '       SUB-ASSEMBLY            <O>    ' GET O:SASSY

@ 1,38 SAY   $(M:KEY,1,4)+'-'+$(M:KEY,5,2)+'-'+$(M:KEY,7,3);
             +'-'+$(M:KEY,10,4)
@ 2,38 SAY    M:CAT
CLEAR GETS

STORE T TO C:CORRECT
DO WHILE O:CORRECT

IF M:COG = '1H' .OR. M:COG = '2H' .OR. M:COG = '7H'
    STORE T TO O:SMIC1
    DO WHILE O:SMIC1
         @ 3,2 SAY '        SMIC                          ' GET;
               M:SM PICTURE 'AX'
         READ
         STORE !(M:SM) TO M:SM
         IF $(M:SM,1,1) = 'X' .OR. $(M:SM,1,1) = 'L'
             STORE F TO O:SMIC1
         ELSE
             @ 23,30 SAY 'X OR L ONLY'
         ENDIF
    ENDDO <C:SMIC1>
ENDIF
RELEASE  O:SMIC1
@ 23,30 SAY '                    '

STORE T TO C:UIC1
DO WHILE O:UIC1
     @ 4,35 SAY ' ' GET M:UIC PICTURE 'AXXXXX'
```

```
      STORE !(M:UIC) TC M:UIC
      READ
      IF $(M:UIC,1,1) = ' ' .OR. $(M:UIC,2,1)= ' '.OR.;
         $(M:UIC,3,1)= ' ' .OR. $(M:UIC,4,1)= ' ' .OR.;
         $(M:UIC,5,1)= ' ' .OR. $(M:UIC,6,1)= ' '
         @ 23,20 SAY ' NO BLANKS ALLOWED IN UIC'
      ELSE
         STORE F TO O:UIC1
      ENDIF
ENDDO <O:UIC1>
      @ 23,20 SAY '                                          '
RELEASE C:UIC1

***** REPORT CONTROL

***** REPORT CONTROL NUMBER (RCN) FORMAT CHANGED DUE TO
***** MSG FROM FMSO NCV83
***** OLD: 'XXXXXX-XXXX-XXXX'     NEW: 'XXXXXX-99-9999'

      @ 5,35 SAY ' ' GET M:REPCON PICTURE 'XXXXXX-99-9999'
      READ

*****    1.TAKE DATE TC JULIAN FORMAT 2. NUMERIC DATA

STORE T TO C:DDATET
DO WHILE O:DDATET
      @ 6,35 SAY ' ' GET O:DDATE PICTURE '999999'
      READ
      IF C:DDATE = '      '
         @ 23,30 SAY 'MAY NOT BE BLANK                '
      ELSE
         IF $(O:DDATE,1,2) < '01'.OR. $(O:DDATE,1,2) > '12';
            .OR. $(O:DDATE,3,2) < '01';
            .OR. $(O:DDATE,3,2) > '31';
            .OR. $(O:DDATE,5,2) < O:LLIMIT;
            .OR. $(O:DDATE,5,2) > O:ULIMIT
               @ 23,30 SAY ' DATE OUT OF RANGE'
         ELSE
               STORE F TO O:DDATET
         ENDIF
      ENDIF
ENDDC <O:DDATET>
@ 23,30 SAY '                                   '
RELEASE C:DDATET

*****  CALL C:OJULIAN TO CONVERT TO JULIAN DATE

STORE VAL($(O:DDATE,1,2)) TO V:MM
STORE VAL($(O:DDATE,3,2)) TO V:DD
STORE VAL($(O:DDATE,5,2)) TO V:YY
DO C:OJULIAN
STORE V:JULDATE TO M:DDATE
RELEASE ALL LIKE V:*

STORE T TC C:NOMEN
DO WHILE O:NOMEN
      @ 7,35 SAY ' 'GET M:NOMEN PICTURE 'XXXXXXXXXXXXXXXXXXX'
      READ
      IF $(M:NOMEN,1,1) = ' ' .OR. $(M:NOMEN,2,1) = ' ' ;
         .OR. $(M:NOMEN,3,1) =' '
         @ 23,30 SAY ' NO BLANKS IN FIRST 3 POSITIONS'
      ELSE
         STORE F TO O:NOMEN
      ENDIF
ENDDO <O:NOMEN>
@ 23,30 SAY '                             '
RELEASE C:NCMEN

*****  INPUT FSCM
```

```
@  8,35 SAY ' ' GET M:FSCM PICTURE  'XXXXXX'

***** INPUT MANUFACTURERS PART NUMBER

@  9,35 SAY ' ' GET M:MFG PICTURE 'XXXXXXXXXXXXXXXX'
@ 10,35 SAY ' ' GET M:LOT PICTURE 'XXXXXXXXX'

*****  INPUT CONTRACT NUMBER

@ 11,35 SAY ' ' GET M:NUM PICTURE 'XXXXXX-99-A-XXXX-XXXX'

***** INPUT DOCUMENT NUMBER

STORE T TO O:UICT
STORE T TO O:PREPT
STORE T TO O:DOCT
DO WHILE C:DOCT .OR. C:UICT
     @ 12,35 SAY ' ' GET M:DOCNO PICTURE 'AXXXXX-9999-9999'
     READ
     IF M:DOCNO = '      -    -    '
          STORE F TO O:DOCT
          STORE F TO O:UICT
     ELSE
          IF $(M:DOCNO,1,1) =' ' .OR. $(M:DOCNO,2,1)= ' ';
             .OR.  $(M:DCCNO,3,1)= ' ';
             .OR.  $(M:DCCNO,4,1)  = ' ';
             .OR.  $(M:DCCNO,5,1)  = ' '
             @ 23,20 SAY ' NO BLANKS ALLOWED IN UIC'
          ELSE
             STORE F TC O:DOCT
          ENDIF
          IF $(M:DCCNO,12,3)  >'366';
             .OR.  $(M:DCCNO,12,3)  = '   ';
             .OR.  $(M:DCCNO,11,4)  = '    '
             @  23,50 SAY 'PREP DATE OUT OF RANGE '
          ELSE
             STORE F TC O:UICT
          ENDIF
     ENDIF <ALL BLANKS>
ENDDO <O:DOCT .AND. C:UICT>
RELEASE C:UICT,O:DOCT
@ 23,20 SAY '                                                        '

***** DOCUMENT NUMBER END

STORE T TO O:ITEM
DO WHILE O:ITEM

     @ 13,35 SAY ' ' GET M:ITEM PICTURE 'A'
     READ
     IF M:ITEM = 'N' .OR. M:ITEM = 'O' .OR. M:ITEM = ' '
          STORE F TO C:ITEM
     ELSE
          @ 23,30 SAY ' USE N OR O '
     ENDIF
ENDDC  <C:ITEM>
@ 23,30 SAY '                                                  '
RELEASE C:ITEM
IF M:ITEM <> ' '

***** THE NEXT FIVE LINES CALCULATE EARLIEST YEAR TO ALLOW
***** FOR OVERHAUL ENTRY

STORE $(C:JULIAN,1,2) TO TEMP1
STORE VAL(TEMP1) TO TEMP1A
STORE VAL('10') TO LCW
STORE TEMP1A-LOW TO TEMP2
```

```
STORE STR(TEMP2,2) TC O:TENYRS
RELEASE TEMP1,TEMP1A,TEMP2,LOW
     STORE T TO O:OVER
     DC WHILE O:OVER
          @ 14,35 SAY ' ' GET M:OVER PICTURE '99999'
          READ
          IF M:OVER='     '
               STORE F TC O:OVER
          ELSE
             IF $(M:OVER,3,3) > '365';
               .OR. $(M:OVER,1,2) < O:TENYRS ;
               .OR. $(M:OVER,1,2) > O:ULIMIT .
                   @ 23,30 SAY 'DATE OUT OF RANGE'
             ELSE
                   STORE F TO O:OVER
             ENDIF
          ENDIF
     ENDDC <O:OVER>
     @ 23,30 SAY '                                 '
ENDIF
RELEASE C:OVER,O:TENYRS


STORE T TO O:OTF
DO WHILE O:CTF
     @ 15,35 SAY ' ' GET M:OTF PICTURE 'A9999'
     READ
     IF M:OTF = '     '
         STORE F TC O:CTF
     ELSE
         IF $(M:OTF,1,1) = 'N' .OR. $(M:OTF,1,1) ='O';
             .AND.$(M:OTF,2,4) > '0000'
               STORE F TO O:OTF
         ELSE
               @ 23,30 SAY 'USE N OR O AND THEN TIME (A9999)'
         ENDIF
     ENDIF
ENDDO  <O:OTF>
@ 23,30 SAY '                                                   '
RELEASE C:OTF
STORE T TO C:GOV
DO WHILE O:GOV
      @ 16,35 SAY ' ' GET M:GOV PICTURE 'X'
      READ
      IF   M:GOV = ' ' .OR.  M:GOV = 'Y'  .OR. M:GOV = 'N'
           STORE  F TO C:GOV
      ELSE
           @ 23,30 SAY 'USE EITHER Y OR N OR LEAVE BLANK'
      ENDIF
ENDDO <O:GOV>
@ 23,30 SAY '                                              '
RELEASE C:GOV
STORE T TO C:QTYRECT
DO WHILE O:QTYRECT

@ 17,35 SAY ' ' GET M:QTYREC  PICTURE '999999'
READ
IF M:QTYREC < 0 .OR. M:QTYREC > 999999
    @ 23,30 SAY 'CUT OF RANGE'
ELSE
    STORE F TO O:QTYRECT
ENDIF
ENDDO
@ 23,30 SAY '                                        '
RELEASE C:QTYRECT
STORE T TO C:QTYINS
DO WHILE O:QTYINS
     @ 17,43 SAY '/' GET M:QTYINS  PICTURE '999999'
     READ
```

```
    IF M:QTYINS < 0 .CR. M:QTYINS > 999999
       @ 23,30 SAY ' CUT OF RANGE'
    ELSE
       STORE F TO O:QTYINS
    ENDIF
ENDDO <O:QTYINS>
@ 23,30 SAY '                                         '
RELEASE C:QTYINS
STORE T TO C:QTYDEF
DO WHILE O:QTYDEF
    @ 17,50 SAY '/'  GET M:QTYDEF PICTURE '999999'
    READ
    IF M:QTYDEF < 1 .CR. M:QTYDEF > 999999
        @ 23,30 SAY ' DEFICIENT
 OUT CF RANGE'
    ELSE
        STORE F TO O:QTYDEF
    ENDIF
ENDDO O:QTYDEF
RELEASE C:QTYDEF
@ 23,30 SAY '                                        '
STORE T TO O:QTYSTK
DO WHILE O:QTYSTK
    @ 17,57 SAY  '/' GET M:QTYSTK  PICTURE '999999'
    READ
    IF M:QTYSTK < 0 .CR. M:QTYSTK  > 999999
       @ 23,30 SAY 'IN STOCK
 OUT OF RANGE'
    ELSE
       STORE F TO O:QTYSTK
    ENDIF
ENDDO O:QTYSTK
@ 23,30 SAY '                                    '
RELEASE C:QTYSTK

@ 18,35 SAY ' ' GET C:MODEL PICTURE 'XXXXXXX'
READ
@ 19,35 SAY ' ' GET C:DEFSER PICTURE 'XXXXXX'
READ
@ 20,35 SAY ' ' GET C:HASSY PICTURE 'XXXXXXXXXX'
READ
@ 21,35 SAY ' ' GET C:SASSY PICTURE 'XXXXXXXXXXXX'
READ
STORE O:MODEL+O:DEFSER+O:HASSY+ O:SASSY TO M:DITEM

***** PROMPT USER FOR RESPONSE

STORE T TO C:END
DO WHILE O:END

     STORE ' ' TC O:REPLY
     @ 22,10 SAY '    *******   CHECK PREVIOUS ENTRIES ';
           +'******* '
     @ 23,10 SAY ' CHOOSE 1- CONTINUE ENTRY   2- MAKE ';
           +'CORRECTIONS ' GET O:REPLY
     READ
     IF C:REPLY <> '1' .AND. O:REPLY <> '2'
        @ 23,10 SAY ' ANSWER WITH A 1 OR 2 ONLY                  '
     ELSE
        STORE F TO C:END
     ENDIF
ENDDO <O:END>

IF O:REPLY = '2'
   STORE T TO O:CORRECT
   @ 22,10 SAY '                                                     '
   @ 23,10 SAY '                                                     '

ELSE
```

```
   STORE F TO O:CORRECT
ENDIF
ENDDO <O:CORRECT>
ERASE
RELEASE O:MODEL,O:DEFSER,O:HASSY,O:SASSY,O:END,O:COUNT

***** HERE IS THE COMPRESSION OF M:REPCON,M:NUM,M:DOCNO

STORE $(M:REPCON,1,6)+$(M:REPCON,8,2) +$(M:REPCON,11,4)  TO ;
      O:REPCON
STORE O:REPCON TO M:REPCON
STORE $(M:NUM,1,6) +$(M:NUM,8,2)+$(M:NUM,11,1)+$(M:NUM,13,4);
      +$(M:NUM,18,4)  TO O:NUM
STORE O:NUM TO M:NUM
STORE $(M:DOCNO,1,6) +$(M:DOCNO,8,4) +$(M:DOCNO,13,4)  TO ;
      O:DOCNO
STORE O:DOCNO TO M:DOCNO
RELEASE O:REPCON,O:NUM,O:DOCNO

***** CAPTURE THE JULIAN DATE  AND PUT INTO OPENING DATE

          STORE O:JULIAN TO M:OPEN
          STORE M:DDATE+M:RDATE+M:OPEN+;
          +'                                N' TO M:DATES
          RELEASE M:DDATE,M:RDATE,M:OPEN,O:ACTPTT,O:PREPT,;
                  O:LLIMIT,O:ULIMIT

***** THIS IS THE START OF THE SECOND SCREEN OF DATA ENTRY

STORE '   ' TO M:UI
STORE 0 TO M:UPRC
STORE '       ' TO M:WUC
STORE ' ' TO M:ACTDISP
STORE '           ' TO M:ACTPT
STORE '                                                        ';
      +'                                                       ';
      +'                         ' TO M:DETAILS
STORE ' ' TO M:DEFV
STORE ' ' TO M:DEFR
STORE '  ' TO M:DEF
STORE ' ' TO M:09Q
STORE ' ' TO M:DOC
STORE '   ' TO M:ORG
STORE  0 TO M:CCOST
     STORE T TO O:PAGE2
     DO WHILE O:PAGE2

@ 0,10 SAY '     UI                                          ';
       GET M:UI
@ 1,10 SAY '     UNIT PRICE           ' GET M:UPRC PICTURE ;
       '999999.99'
@ 2,10 SAY '18.  EST. CORRECTION COST                  <O> 'GET;
       M:CCOST PICTURE '999999999.99'
@ 3,10 SAY '19.  WARRANTY - Y/N/U                          'GET;
       M:WNTY PICTURE 'A'
@ 4,10 SAY '20.  WORK UNIT CODE                        <O> 'GET;
       M:WUC
@ 5,10 SAY '21.  ACTION/DISPOSITION -H/I/D/R/O         <O> 'GET;
       M:ACTDISP PICTURE 'X'
@ 6,10 SAY '22.  DETAILS OF DISCREPANCY - FIRST 2 '
@ 7,10 SAY '       LETTERS MUST BE DISCOVERY CODE'
@ 8,10 SAY '                 ' GET M:DETAILS
@ 12,10 SAY '23A. ACTION POINT                               ';
        GET M:ACTPT PICTURE 'AXXXXX99999'
@ 13,10 SAY '     DEFECT VERIFICATION CODE - N/O/U/Y <O>';
        GET M:DEFV PICTURE 'A'
@ 14,10 SAY '     DEFECT RESPONSIBILITY - C/N/S/U/X  <O>';
        GET M:DEFR PICTURE 'A'
@ 15,10 SAY '     9Q                                         ';
```

```
        GET M:09Q PICTURE 'X'
@ 16,10 SAY '     ORIGIN CODE                                  ';
        GET M:ORG PICTURE 'AAX'
@ 17,10 SAY '30.  TYPE DOC                                     ';
        GET M:DOC PICTURE '9'
@ 18,10 SAY '     TYPE DEFICIENCY                              ';
        GET M:DEF PICTURE '99'

CLEAR GETS
         STORE T TO O:UI
         DO WHILE O:UI
               @ 0,10 SAY '     UI                                  ;
                           ' GET M:UI PICTURE 'AA'
               READ
               IF $(M:UI,1,1) = ' ' .OR. $(M:UI,2,1) = ' '
                   @ 23,30 SAY ' NO BLANKS'
               ELSE
                   STORE F TO O:UI
               ENDIF
         ENDDO O:UI
         @ 23,30 SAY '                    '
         RELEASE O:UI

         STORE T TO O:EPRC
         STORE T TO O:UPRC
         DO WHILE O:UPRC .OR. O:EPRC

             DO WHILE O:UPRC
                 @ 1,10 SAY '     UNIT PRICE           ' GET;
                        M:UPRC PICTURE '999999.99'
                 READ
                 IF M:UPRC < .01 .OR. M:UPRC > 999999.99
                     @ 23,30 SAY ' AMOUNT OUT OF RANGE '
                 ELSE
                     STORE F TO O:UPRC
                 ENDIF
             ENDDO <O:UPRC>
             @ 23,30 SAY '                          '
             STORE (M:UPRC * M:QTYDEF) TO M:EPRC

             @ 1,43 SAY 'EXT PRICE $'
             @ 1,54 SAY M:EPRC  PICTURE '999999999.99'
             IF M:EPRC >= 100000000
                  @ 23,30 SAY ' EXTENDED PRICE OUT OF RANGE'
             ELSE
                  STORE F TO O:EPRC
             ENDIF
         ENDDO <O:UPRC & O:EPRC>
         RELEASE O:UPRC,O:EPRC
         @ 23,30 SAY '                                      '
             @ 2,10 SAY '18.  EST. CORRECTION COST            ';
                   +'<O> 'GET M:CCOST PICTURE '999999999.99'
             READ

         STORE T TO O:WNTY
         DO WHILE O:WNTY
             @ 3,10 SAY '19.  WARRANTY - Y/N/U               ;
                             ' GET M:WNTY PICTURE 'A'
             STORE !(M:WNTY) TO M:WNTY
             READ
             IF M:WNTY <> 'Y' .AND. M:WNTY <> 'N' ;
                .AND. M:WNTY <> 'U'
                   @ 23,30 SAY 'USE Y,N OR U '
             ELSE
                   STORE F TO O:WNTY
             ENDIF
         ENDDO <O:WNTY>
         @ 23,30 SAY '                      '
         RELEASE O:WNTY
```

```
    @ 4,10 SAY '20.  WORK UNIT CODE                      ;
          <O> ' GET M:WUC PICTURE 'XXXXXXX'
    STORE T TO O:ACTDISP
    DO WHILE O:ACTDISP
        @ 5,10 SAY '21.  ACTION/DISPOSITION ';
               +'-H/I/D/R/O       <O> ' ;
               GET M:ACTDISP PICTURE 'X'
        READ
        IF M:ACTDISP = 'H' OR. M:ACTDISP = 'I' ;
           .OR. M:ACTDISP = 'D'.OR. M:ACTDISP = 'R' ;
           .OR. M:ACTDISP = 'O' .OR. M:ACTDISP =' '
              STORE F TO O:ACTDISP
        ELSE
              @ 23,30 SAY ' ERROR IN CODE'
        ENDIF
    ENDDO <O:ACTDISP>
    @ 23,30 SAY '                              '
    RELEASE O:ACTDISP

STORE T TO O:DISCODE
DO WHILE O:DISCODE

   @ 6,10 SAY '22.  DETAILS OF DISCREPANCY - FIRST 2 '
   @ 7,10 SAY '       LETTERS MUST BE DISCOVERY CODE'
   @ 8,10 SAY '                  ' GET M:DETAILS
   READ
   STORE  $(M:DETAILS,1,2) TO M:DIS
   STORE !(M:DIS) TO M:DIS
   USE D:WHEREDIS INDEX D:DISCODE
   FIND &M:DIS
      IF  # = 0
          @ 23,30 SAY 'WHERE DISCOVERED CODE INCORRECT'
      ELSE
          STORE F TO O:DISCODE
      ENDIF
      ENDDO <O:DISCODE>
      @ 23,30 SAY '                                '
      RELEASE O:DISCODE

    STORE T TO O:ACTPTT
    DO WHILE O:ACTPTT
        @ 12,10 SAY '23A. ACTION POINT                      ;
                  ' GET M:ACTPT PICTURE 'AXXXXX9999'
        READ
        IF M:ACTPT= '            '
            @ 23,30 SAY 'MAY NOT BE BLANK'
        ELSE
            STORE F TO O:ACTPTT
        ENDIF
    ENDDO <O:ACTPTT>
    @ 23,30 SAY '                          '

      STORE T TO O:DEFV
      DO WHILE O:DEFV
          @ 13,10 SAY '      DEFECT VERIFICATION CODE';
                +'-N/O/U/Y <O>' GET M:DEFV PICTURE 'A'
          READ
          IF M:DEFV = 'N' .OR. M:DEFV = 'O' ;
             .OR. M:DEFV = 'U' ;
             .OR. M:DEFV= 'Y' .OR. M:DEFV = ' '
             STORE F TO O:DEFV
          ELSE
             @ 23,30 SAY 'CORRECT CODE MUST BE ENTERED'
          ENDIF
    ENDDO <O:DEFV>
    @ 23,30 SAY '                                      '
    RELEASE O:DEFV
```

```
STORE T TO C:DEFR
DO WHILE O:DEFR
    @ 14,10 SAY '     DEFECT RESPONSIBILITY -;
          +'C/N/S/U/X  <O>' GET M:DEFR PICTURE 'A'
    READ
    IF M:DEFR = 'C' .OR. M:DEFR = 'N' ;
       .OR. M:DEFR = 'S' .OR. M:DEFR = 'U' ;
       .OR. M:DEFR = 'X' .OR. M:DEFR = ' '
        STORE F TO O:DEFR
    ELSE
        @ 23,30 SAY 'CORRECT CODE MUST BE ENTERED'
    ENDIF
ENDDO <O:DEFR>
@ 23,30 SAY '                                          '
RELEASE O:DEFR

IF M:COG ='9Q'
    STORE T TO O:9Q
    DO WHILE O:9Q
        @ 15,10 SAY '     9Q                             ';
            +'                ' GET M:O9Q PICTURE 'X'
        READ
        IF M:O9Q ='2' .OR. M:O9Q ='4' ;
           .OR. M:O9Q ='5' .OR. M:O9Q ='7';
           .OR. M:O9Q ='9' .OR. M:O9Q =' '
            STORE F TO O:9Q
        ELSE
            @ 23,30 SAY ' OUT OF RANGE'
        ENDIF
    ENDDO <O:9Q>
    @ 23,30 SAY '                                      '
    RELEASE O:9Q
ENDIF <M:COG = 9Q>

STORE T TO O:ORG
DO WHILE O:ORG
    @ 16,10 SAY '     ORIGIN CODE                       ';
          +'                ' GET M:ORG PICTURE 'AAX'
    READ
    IF $(M:ORG,1,1) =' '.OR. $(M:ORG,2,1) = ' '
        @ 23,20 SAY ' FIRST 2 POSITIONS MAY NOT';
              +'CONTAIN BLANKS'
     ELSE
        STORE F TO O:ORG
     ENDIF
ENDDO <O:ORG>
@ 23,20 SAY '                                          '
RELEASE O:ORG

STORE T TO O:TYPE
DO WHILE O:TYPE
    @ 17,10 SAY '30.  TYPE DOC                          ';
          +'                ' GET M:DOC PICTURE '9'
    READ
    IF M:DOC < '1' .OR. M:DOC > '7'
        @ 23,30 SAY 'OUT OF RANGE'
    ELSE
        STORE F TO O:TYPE
    ENDIF
ENDDO <O:TYPE>
@ 23,30 SAY '                          '
RELEASE O:UIC,O:UIC2,O:PREP,O:DOC,O:SERNO,O:TYPE

STORE T TO O:DEF
DO WHILE O:DEF
    @ 18,10 SAY '     TYPE DEFICIENCY                   ';
          +'                  ' GET M:DEF PICTURE '99'
    READ
    IF M:DEF < '01' .OR. M:DEF > '19'
```

```
              @ 23,30 SAY 'USE 01 - 19 ONLY'
          ELSE
              STORE F TO O:DEF
          ENDIF
      ENDDO <O:DEF>
      RELEASE O:DEF
      @ 23,30 SAY '                                        '

***** PROMPT USER FOR RESPONSE

      STORE T TO O:END
      DO WHILE O:END

          STORE ' ' TO O:REPLY
          @ 20,20 SAY ' 1 - POST CASE'
          @ 21,20 SAY ' 2 - CHANGE DATA'
          @ 22,20 SAY ' 3 - EXIT WITHOUT POSTING '

          @ $+1,34 SAY ' ' GET O:REPLY
          READ
          IF O:REPLY <> '1' .AND. O:REPLY <> '2' ;
             .AND. O:REPLY <> '3'
              @ 23,5 SAY ' ANSWER WITH  1 - 2 - 3 ONLY '
          ELSE
              STORE F TO O:END
          ENDIF
      ENDDO <O:END>
      @ 23,10 SAY '                                          '
      RELEASE O:END

      ERASE
      IF O:REPLY = '1'
          @ 10,20 SAY 'CASE BEING POSTED TO DATA BASE '
          @ 13,20 SAY '        PLEASE STANDBY          '
          @ 20,20 SAY '***   DO NOT INTERRUPT    ***   '

          STORE F TO O:PAGE2
          STORE '1F' TO M:TYPE
          DO C:XDEHNDLR.PRG
          STORE '2F' TO M:TYPE
          DO C:XDEHNDLR.PRG

          ERASE
          @ 10,20 SAY '  CASE NUMBER OF THE NEW CASE'
          @ 12,33 SAY  M:CASE
          @ 23,20 SAY '   PRESS ANY KEY TO CONTINUE'
          WAIT

      ENDIF
      IF O:REPLY = '2'
          STORE T TO O:PAGE2
      ELSE
          IF O:REPLY = '3'
              STORE F TO O:PAGE2
          ENDIF
      ENDIF

    ENDDO <O:PAGE2>
    RELEASE ALL EXCEPT C:*
    STORE T TO O:TRUE
  ENDDO <O:TRUE>
RETURN

***** END OF PROGRAM
```

V. CASE UPDATE MODULE

```
************************************************************
**                                                        **
**   DATE: 8 DECEMBER 1983                                **
**   VERSION: 1.0                                         **
**   MODULE NAME: UPDATE                                  **
**   MODULE PURPOSE: ALLOW ADDITION AND/OR CORRECTION OF  **
**                   DATA IN QDR CASE CURRENTLY IN QDR    **
**                   SYSTEM.                              **
**   MODULE INTERFACE DEFINITION                          **
**      INPUTS: CASE, C:WHO, C:JULIAN                     **
**      OUTPUTS: ALL DATA ELEMENTS IN OPEN1 & OPEN2,      **
**               M:TYPE                                   **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:             **
**                                                        **
**      USER ENTERS CASE NUMBER OF CASE TO BE CHANGED.    **
**      MODULE SEARCHES DATA BASE FOR CASE AND            **
**      DISPLAYS INFORMATION CURRENTLY ON FILE THROUGH    **
**      A SERIES OF THREE MENUS. DATA IS WRITTEN TO       **
**      FIRST DATA BASE MIDWAY IN PROCESS DUE TO          **
**      LIMIT OF 64 MEMORY VARIABLES AT ANY ONE TIME.     **
**      CHANGE OF DATES IS NOTED FOR STATISTIC            **
**      MODULE UTILIZATION.                               **
**                                                        **
**   SUPERORDINATE MODULES: MENU1                         **
**   SUBORDINATE MODULES: XDBHNDLR                        **
**   AUTHOR: J.G. BOYNTON                                 **
**                                                        **
************************************************************

STORE T TO U:UPDATE
DO WHILE U:UPDATE
  STORE T TO U:TRUE
  DO WHILE U:TRUE
  ERASE
  STORE ' 'TO U:CHOICE
  TEXT
                                 ***** UPDATE *****


                             THIS PROGRAM ALLOWS YOU TO

                                 UPDATE A QDR CASE



                                  1 - CONTINUE

                                  2 - RETURN TO MENU
  ENDTEXT
  @ 20,40 SAY ' ' GET U:CHOICE
  READ
  DO WHILE U:CHOICE <> '1' .AND. U:CHOICE <> '2'
     @ 23,20 SAY 'ENTER 1 OR 2 FOR YOUR RESPONSE'
     @ 20,40 SAY ' ' GET U:CHOICE
     READ
  ENDDO <U:CHOICE>
  ERASE
  IF U:CHOICE = '2'
     RELEASE ALL EXCEPT C:*
```

```
      RETURN
   ENDIF

ERASE
      STORE  '          'TO M:CASE
TEXT
                              ***** SELECT RECORD FOR UPDATE *****


                                       ENTER THE CASE NUMBER
                                   OF THE RECORD TO BE UPDATED


ENDTEXT
STORE ' ' TO U:REPLY
@ 10, 29 SAY 'CASE ' GET M:CASE PICTURE '999999X'
READ
STORE M:CASE TO M:KEY
STORE '1E'  TO M:TYPE
DO C:XDBHNDLR
IF M:TYPE = '9'
    @ 12,25 SAY 'RECORD NOT FOUND IN OPEN FILE '
    @ 13,21 SAY 'DO YOU WISH TO CHECK THE CLOSED FILE ?'
    @ 14,40 GET U:REPLY PICTURE 'A'
    READ
    DO WHILE !(U:REPLY) <> 'Y' .AND. !(U:REPLY) <> 'N'
        @ 14,45 SAY 'ENTER Y OR N'
        @ 14,40 GET U:REPLY PICTURE 'A'
        READ
    ENDDO
    @ 14,45 SAY '               '
    IF !(U:REPLY) = 'Y'
        STORE '3E' TO M:TYPE
        DO C:XDBHNDLR
        IF M:TYPE = '9'
            @ 16,23 SAY 'RECORD NOT FOUND IN THE QDR SYSTEM'
            @ 17,27 SAY 'STRIKE ANY KEY TO CONTINUE'
            WAIT TO U:REPLY
        ELSE
           IF M:TYPE = '1'
              @ 18,28 SAY 'RECORD CURRENTLY IN USE'
              @ 19,27 SAY 'STRIKE ANY KEY TO CONTINUE'
              WAIT TO U:REPLY
           ELSE
              ERASE
              STORE F TO U:TRUE
              STORE 'CLOSE' TO U:FILE
           ENDIF
        ENDIF
    ENDIF
ELSE
    IF M:TYPE = '1'
        @ 12,28 SAY 'RECORD CURRENTLY IN USE'
        @ 13,27 SAY 'STRIKE ANY KEY TO CONTINUE'
        @ 14,40 GET U:REPLY
        READ
    ELSE
        ERASE
        STORE F TO U:TRUE
        STORE 'OPEN' TO U:FILE
    ENDIF
ENDIF
ENDDO <U:TRUE>

**** THIS SECTION FOR CURRENT DATES VALUE CAPTURE

ERASE

 STORE $(M:DATES,1,5) TO M:DDATE
```

```
 STORE $(M:DATES,6,5) TO M:RDATE
 STORE $(M:DATES,11,5) TO M:OPEN
 STORE $(M:DATES,16,5) TO M:LDATE
 STORE $(M:DATES,21,5) TO M:SCRDATE
 STORE $(M:DATES,26,5) TO M:IRDATE
 STORE $(M:DATES,31,5) TO M:RIMDAT
 STORE $(M:DATES,36,5) TO M:CLCSE
 STORE $(M:DATES,41,5) TO M:REOPEN

 STORE M:DDATE TO T:DDATE
 STORE M:RDATE TO T:RDATE
 STORE M:OPEN  TO T:OPEN
 STORE M:LDATE TO T:LDATE
 STORE M:SCRDATE TO T:SCRDATE
 STORE M:IRDATE TO T:IRDATE
 STORE M:RIMDAT TO T:RIMDAT
 STORE M:CLCSE TO T:CLOSE
 STORE M:REOPEN TO T:REOPEN


***** THIS SEQUENCE CALCULATES THE UPPER AND LOWER YEARS FOR
***** INPUT AND IS BASED ON THE CURRENT JULIAN DATE
***** U:LLIMIT= YEAR MINUS TWO YEARS
***** U:ULIMIT = YEAR PLUS ONE YEAR

STORE $(C:JULIAN,1,2) TO TEMP1
STORE VAL(TEMP1) TO TEMP1A
STORE VAL('2') TO LOW
STORE VAL('1') TO HIGH
STORE TEMP1A-LOW TO LLMT
STORE TEMP1A+HIGH TO ULMT
STORE STR(LLMT,2) TO U:LLIMIT
STORE STR(ULMT,2) TO U:ULIMIT
RELEASE TEMP1,TEMP1A,LOW,HIGH,LLMT,ULMT
ERASE

@  3,2 SAY '      DATES CURRENTLY IN FILE FOR CASE
'
@  3,45 SAY  M:CASE
@  8,2 SAY '          DISCOVERY DATE                'GET M:DDATE
@  9,2 SAY '          RECEIVED FROM ORIGIN          'GET M:RDATE
@ 10,2 SAY '          OPENING DATE                * '
@ 10,36 SAY  M:OPEN
@ 11,2 SAY '          TRANSMITTAL DATE              'GET M:LDATE
@ 12,2 SAY '          SCREEN REPORT DATE            'GET M:SCRDATE
@ 13,2 SAY '          INTERIM RESPONSE DATE         'GET M:IRDATE
@ 14,2 SAY '          RETURN FROM ITEM MGR          'GET M:RIMDAT
@ 15,2 SAY '          CLCSE                       * '
@ 15,36 SAY M:CLOSE
@ 16,2 SAY '          RECPEN                        'GET M:RECPEN
@ 18,2 SAY '  <* MAY NOT CHANGE THESE DATES>         '
CLEAR GETS

     STORE ' ' TO U:REPLY
     STORE T TO U:DATET
     DO WHILE U:DATET

         STORE  T TO U:DDATET
         DO WHILE U:DDATET

             @ 8,35 SAY  ' '   GET M:DDATE
             READ
              IF M:DDATE <> '     '
                 IF $(M:DDATE,1,2) < U:LLIMIT ;
                    .OR. $(M:DDATE,1,2) > U:ULIMIT;
                    .OR. $(M:DDATE,3,3) <'001' ;
                    .OR. $(M:DDATE,3,3) > '365';
                    .OR. M:DDATE > C:JULIAN
```

```
                @ 23,30 SAY 'DATE OUT OF RANGE'
            ELSE
                 STORE F TO U:DDATET
            ENDIF
         ELSE
            STORE F TO U:DDATET
         ENDIF <BLANK>
    ENDDO <U:DDATET>
    @ 23,30 SAY '                         '

    STORE  T TO U:RDATET
    DO WHILE U:RDATET

        @ 9,35 SAY ' '   GET M:RDATE
        READ
        IF $(M:RDATE,1,2) < U:LLIMIT ;
           .OR. $(M:RDATE,1,2) > U:ULIMIT ;
           .OR. $(M:RDATE,3,3) <'001' ;
           .OR. $(M:RDATE,3,3) > '365';
           .OR. M:RDATE > C:JULIAN ;
           .OR. M:RDATE < M:DDATE ;
           .OR. M:RDATE >M:OPEN
              @ 23,30 SAY 'DATE OUT OF RANGE'
        ELSE
              STORE F TO U:RDATET
        ENDIF
    ENDDO <U:RDATET>
    @ 23,30 SAY '                         '
    RELEASE U:DDATET,U:RDATET

    STORE  T TO U:LDATET
    DO WHILE U:LDATET

        @ 11,35 SAY ' '   GET M:LDATE
        READ
        IF M:LDATE <> '      '
            IF $(M:LDATE,1,2) < U:LLIMIT ;
               .OR. $(M:LDATE,1,2) > U:ULIMIT ;
               .OR. $(M:LDATE,3,3) <'001' ;
               .OR. $(M:LDATE,3,3) > '365' ;
               .OR. M:LDATE > C:JULIAN ;
               .OR. M:LDATE < M:OPEN
                  @ 23,30 SAY 'DATE OUT OF RANGE'
            ELSE
                  STORE F TO U:LDATET
            ENDIF
       ELSE
            STORE F TO U:LDATET
       ENDIF
    ENDDO <U:LDATET>
    @ 23,30 SAY '                         '

    STORE  T TO U:SCDATET
    DO WHILE U:SCDATET

        @ 12,35 SAY ' '   GET M:SCRDATE
        READ
        IF M:SCRDATE <> '      '

            IF $(M:SCRDATE,1,2) < U:LLIMIT ;
               .OR. $(M:SCRDATE,1,2) > U:ULIMIT ;
               .OR. $(M:SCRDATE,3,3) <'001' ;
               .OR. $(M:SCRDATE,3,2) > '365';
               .OR. M:SCRDATE < M:LDATE
                  @ 23,30 SAY 'DATE OUT OF RANGE'
            ELSE
               STORE F TO U:SCDATET

            ENDIF
```

```
    ELSE
        STORE F TO U:SCDATET
    ENDIF
ENDDO <U:SCDATET>
@ 23,30 SAY '                              '
RELEASE U:LDATET,U:SCDATET

STORE   T TO U:IRDATET
DO WHILE U:IRDATET

    @ 13,35 SAY ' '   GET M:IRDATE
    READ
    IF M:IRDATE <> '     '

        IF $(M:IRDATE,1,2) <U:LLIMIT ;
           .OR. $(M:IRDATE,1,2) > U:ULIMIT;
           .OR. $(M:IRDATE,3,3) <'001' ;
           .OR. $(M:IRDATE,3,3) > '365';
           .OR. M:IRDATE < M:OPEN
              @ 23,30 SAY 'DATE OUT OF RANGE'
        ELSE
           STORE F TO U:IRDATET
        ENDIF
    ELSE
        STORE F TO U:IRDATET
    ENDIF
ENDDO <U:IRDATET>
@ 23,30 SAY '                              '

STORE   T TO U:RIMDATT
DO WHILE U:RIMDATT

    @ 14,35 SAY ' '   GET M:RIMDAT
    READ
    IF M:RIMDAT <> '     '

        IF $(M:RIMDAT,1,2) <U:LLIMIT ;
           .OR. $(M:RIMDAT,1,2) > U:ULIMIT;
           .OR. $(M:RIMDAT,3,3) <'001' ;
           .OR. $(M:RIMDAT,3,3) > '365'
              @ 23,30 SAY 'DATE OUT OF RANGE'
        ELSE
           IF M:RIMDAT < M:LDATE
               @ 23,30 SAY ' RTN DATE NOT ';
                 +'BEFORE TRANSMITTAL DATE'
           ELSE
                STORE F TO U:RIMDATT
           ENDIF
        ENDIF
    ELSE
        STORE F TO U:RIMDATT
    ENDIF
ENDDO <U:RIMDATT>
@ 23,30 SAY '                                                  ';
        +'           '
RELEASE U:IRDATET,U:RIMDATT

STORE   T TO U:REOPENT
DO WHILE U:REOPENT

    @ 16,35 SAY ' '   GET M:REOPEN
    READ
    IF M:REOPEN <> '     '

        IF $(M:REOPEN,1,2) <U:LLIMIT ;
           .OR. $(M:REOPEN,1,2) > U:ULIMIT;
           .OR. $(M:REOPEN,3,3) <'001' ;
           .OR. $(M:REOPEN,3,3) > '365'
           @ 23,30 SAY 'DATE OUT OF RANGE'
```

```
                    ELSE
                        IF M:REOPEN < M:OPEN
                            @ 23,30 SAY 'REOPEN DATE MAY NOT';
                                   +' BE LESS THAN OPEN DATE !'
                        ELSE
                            STORE F TO U:REOPENT
                        ENDIF
                    ENDIF
                ELSE
                    STORE F TO U:REOPENT
                ENDIF
            ENDDO <U:REOPENT>
            @ 23,30 SAY '                                    ';
                    +'                   '
      STORE T TO U:END
    DO WHILE U:END
      @ 21,10 SAY '      *****    CHECK DATES ABOVE    *****    '
      @ 22,10 SAY '<CHOOSE> 1- CONTINUE    2- CHANGE    3-EXIT'
      @ 23,10 SAY '                          ' GET U:REPLY PICTURE '9'
      READ
      IF U:REPLY <> '1'.AND. U:REPLY <> '2'.AND.U:REPLY <> '3'
            @ 22,10 SAY ' ANSWER WITH A  1 - 2 - 3  ONLY'
        ELSE
            STORE F TO U:END
        ENDIF
      ENDDO <U:END>
      @ 21,10 SAY '                                                    '
      @ 22,10 SAY '                                                    '
      @ 23,10 SAY '                                                    '
      RELEASE U:REOPENT,U:END

      IF U:REPLY ='1'
          STORE F TO U:DATET
          STORE T TO U:CONT1
          IF M:DDATE <> T:DDATE .OR. M:RDATE <> T:RDATE ;
             .OR. M:OPEN <> T:OPEN .OR.M:LDATE <> T:LDATE ;
             .OR. M:SCRDATE <> T:SCRDATE ;
             .OR. M:IRDATE <> T:IRDATE.OR.M:RIMDAT<>T:RIMDAT ;
             .OR. M:CLOSE <> T:CLOSE .OR. M:REOPEN <>T:REOPEN
                  STORE '*' TO M:DATECI
          ELSE
             STORE ' ' TO M:DATECI
          ENDIF
          RELEASE ALL LIKE T:*
          STORE M:DDATE+M:RDATE+M:OPEN+M:LDATE+M:SCRDATE;
                +M:IRDATE+M:RIMDAT+M:CLOSE+M:REOPEN+M:DATECI;
                TO M:DATES
          RELEASE M:DDATE,M:RDATE,M:OPEN,M:LDATE,M:SCRDATE,;
                  M:IRDATE,M:RIMDAT,M:CLOSE,M:REOPEN,M:DATECI


      ELSE
           IF U:REPLY ='3'
              STORE F TO U:DATET
              STORE F TO U:CONT1
              STORE F TO U:CONT2
              STORE F TO U:CONT3
              IF U:FILE = 'OPEN'
                  STORE '1G' TO M:TYPE
              ELSE
                  STORE '3G' TO M:TYPE
              ENDIF
              DO C:XDBHNDLR
              RELEASE ALL EXCEPT C:*
              RETURN
           ENDIF

      ENDIF
```

```
ENDDO <U:DATET>
RELEASE U:DATET,U:END

ERASE

DO WHILE U:CONT1

***** DISPLAY OF CASE DATA FROM FIRST DATABASE

@  1,2 SAY '      NSN:'
@  1,17  SAY $(M:NSN,1,4)+'-'+$(M:NSN,5,2)+'-';
            +$(M:NSN,7,3)+'-'+$(M:NSN,10,4)
@  1,42 SAY 'CAT ' GET M:CAT
@  1,55 SAY 'CASE NUMBER:'
@  1,67 SAY  M:CASE
@  2,2 SAY '      COG                          ' GET M:COG ;
       PICTURE 'XX'
@  2,41 SAY 'SMIC ' GET M:SM PICTURE 'AX'
@  3,2 SAY '      UIC                          ' GET M:UIC
@  4,2 SAY '      REPCRT CONTROL
           ';
       GET M:REPCON PICTURE 'XXXXXX999999'
@  5,2 SAY '      ACTICN POINT                 ' GET M:ACTPT;
       PICTURE 'AXXXXX99999'
@  6,2 SAY '      NOMENCLATURE                 ';
       GET M:NOMEN PICTURE 'XXXXXXXXXXXXXXXXXXX'
@  7,2 SAY '      FSCM                         ';
       GET M:FSCM PICTURE 'XXXXXX'
@  8,2 SAY '      CONTRACT
           ';
       GET M:NUM PICTURE 'XXXXXX99AXXXXXXXX'
@  9,2 SAY '      DOCUMENT
           ';
       GET M:DOCNO PICTURE 'XXXXXX99999999'
@ 10,2 SAY '      QUANTITY DEFICIENT           ';
       GET M:QTYDEF PICTURE '999999'
@ 11,2 SAY '      UNIT OF ISSUE                ';
       GET M:UI PICTURE 'XX'
@ 12,2 SAY '      UNIT PRICE                   ';
       GET M:UPRC PICTURE '999999.99'
@ 13,2 SAY '      ORIGIN                       ';
       GET M:ORG PICTURE 'XXX'
@ 14,2 SAY '      9Q REGION CODE               ';
       GET M:O9Q PICTURE 'X'
@ 15,2 SAY '      SCREEN QUANTITY              ';
       GET M:SCRQTY PICTURE '999999'
@ 16,2 SAY '      SCREEN CODE                  ';
       GET M:SCR PICTURE 'XXX'
@ 17,2 SAY '      TYPE DOCUMENT                ';
       GET M:DOC  PICTURE '9'
@ 18,2 SAY '      VENDOR LIABILITY CODE        ';
       GET M:VLC PICTURE 'A'
@ 19,2 SAY '      CREDIT CODE                  ';
       GET M:CR PICTURE 'A'
@ 20,2 SAY '      TYPE DEFECT                  ';
       GET M:DEF PICTURE '99'
CLEAR GETS
     STORE ' ' TO U:REPLY
     @ 22,10 SAY '            ENTER  <N> TO SKIP '
     @ 23,30 SAY ' 'GET U:REPLY
     READ

     IF !(U:REPLY) = 'N'
         STCRE F TO U:FIRSTPG
         STORE F TO U:CONT1
         STCRE T TO U:CONT2
         IF U:FILE ='CPEN'
```

```
            STORE '1C' TO M:TYPE
        ELSE
            STORE '3C' TO M:TYPE
        ENDIF
    ELSE
        STORE T TO U:FIRSTPG
    ENDIF
    @ 22,10 SAY '                                                       '
    @ 23,10 SAY '                                               '

***** SKIP FIRST PAGE OF UPDATE IF REPLY WAS <N>

    DO WHILE U:FIRSTPG
        STORE T TO U:CAT
        DO WHILE U:CAT
             @ 1,42 SAY 'CAT ' GET M:CAT PICTURE '9'
             READ
             IF M:CAT ='1' .OR. M:CAT ='2'
                  STORE F TO U:CAT
             ELSE
                  @ 23,20 SAY ' 1 OR 2 ONLY'
             ENDIF
        ENDDO U:CAT
        @ 23,20 SAY '                       '
        RELEASE U:CAT


        STORE T TO U:COG1
        STORE T TO U:COG2
        DO WHILE U:COG1 .OR. U:COG2
            DO WHILE U:COG1

                @ 2,35 SAY ' ' GET M:COG PICTURE '9X'
                READ
                STORE !(M:COG) TO M:COG
                IF $(M:COG,2,1) = ' '
                      @ 23,20  SAY ' NO BLANKS IN 2D ';
                                +'POSITION'
                ELSE
                      STORE F TO U:COG1
                ENDIF
           ENDDO <U:COG1>
           @ 23,20 SAY '                                        ';
                   +'                  '

***** CHECKS THAT COG IS VALID IN CURRENT COG TABLE... MUST
***** BE VALID TO CONTINUE

               USE D:COG INDEX D:COGS
               FIND  &M:COG
               IF   # = 0
                    @ 23,20 SAY ' COG INVALID - ENTER ';
                           +'     CORRECTED ENTRY'
               ELSE
                    STORE F  TO U:COG2
               ENDIF
        ENDDO <U:COG1 & U:COG2>
        RELEASE U:COG1, U:COG2
        @ 23,20 SAY '                                        ';
                +'               '

        IF M:COG = '1H' .OR. M:COG = '2H' .OR. M:COG = '7H'
             STORE T TO U:SMIC1
             DO WHILE U:SMIC1
                  @ 2,45 SAY ' ' GET M:SM PICTURE 'AX'
                  READ
                  STORE !(M:SM) TO M:SM
                  IF $(M:SM,1,1) = 'X'.OR.$(M:SM,1,1) = 'L'
                      STORE F TO U:SMIC1
```

```
                ELSE
                    @ 23,30 SAY 'X OR L ONLY'
                ENDIF
            ENDDO <U:SMIC1>
        ENDIF
        RELEASE  U:SMIC1
        @ 23,30 SAY '                        '

        STORE T TO U:UIC1
        DO WHILE U:UIC1
           @ 3,35 SAY ' ' GET M:UIC PICTURE 'AXXXXX'
           READ
           IF $(M:UIC,1,1) = ' '.OR. $(M:UIC,2,1)= ' ' .OR.;
              $(M:UIC,3,1) = ' '.OR. $(M:UIC,4,1)= ' ' .OR.;
              $(M:UIC,5,1) = ' '.OR. $(M:UIC,6,1)= ' '
                 @ 23,20 SAY ' NO BLANKS ALLOWED IN UIC'
            ELSE
               STORE F TO U:UIC1
            ENDIF
        ENDDO <U:UIC1>
        @ 23,20 SAY '                                  '
        RELEASE U:UIC1

        @ 4,35 SAY ' ' GET M:REPCON PICTURE 'XXXXXX999999'
        READ

        STORE T TO U:ACTPTT
        DO WHILE U:ACTPTT
            @ 5,35 SAY ' 'GET M:ACTPT PICTURE 'AXXXXX99999'
            READ
            IF M:ACTPT= '           '
               @ 23,30 SAY 'MAY NOT BE BLANK'
            ELSE
               STORE F TO U:ACTPTT
            ENDIF
        ENDDO <U:ACTPTT>
        @ 23,30 SAY '                             '

        STORE T TO U:NOMEN
        DO WHILE U:NOMEN
            @ 6,35 SAY ' 'GET M:NOMEN PICTURE ;
                          'XXXXXXXXXXXXXXXXXXXX'
            READ
            IF $(M:NOMEN,1,1) = ' ' ;
               .OR. $(M:NOMEN,2,1) = ' ';
               .OR. $(M:NOMEN,3,1)=' '
                   @ 23,30 SAY ' NO BLANKS IN FIRST 3';
                             +'  POSITIONS'
           ELSE
                   STORE F TO U:NOMEN
           ENDIF
        ENDDO <U:NOMEN>
        @ 23,30 SAY '                                  '
        RELEASE U:NOMEN

***** INPUT FSCM

       @  7,35 SAY ' ' GET M:FSCM PICTURE  'XXXXXX'

***** INPUT CONTRACT NUMBER

       @ 8,35 SAY ' 'GET M:NUM PICTURE 'XXXXXX99AXXXXXXXX'

***** INPUT DOCUMENT NUMBER

      STORE T TO U:UICT
      STORE T TO U:PREPT
      STORE T TO U:DOCT
      DO WHILE U:DOCT .OR. U:UICT
```

```
     @ 9,35 SAY ' 'GET M:DOCNO PICTURE 'XXXXXX99999999'
     READ
     IF M:DOCNO = '                 '
         STORE F TO U:DOCT
         STORE F TO U:UICT
     ELSE
         IF $(M:DOCNO,1,1) =' '.OR.$(M:DOCNO,2,1)= ' ';
             .OR. $(M:DOCNO,3,1)= ' ' ;
             .OR. $(M:DOCNO,4,1) = ' ' ;
             .OR. $(M:DOCNO,5,1) = ' '
                 @ 23,20 SAY ' NO BLANKS ALLOWED IN UIC'
         ELSE
                 STORE F TO U:DOCT
         ENDIF
         IF $(M:DOCNO,12,3) >'366' ;
             .OR. $(M:DOCNO,12,3) = '   ' ;
             .OR. $(M:DOCNO,11,4) = '    '
                 @  23,50 SAY 'PREP DATE OUT OF RANGE '
             ELSE
                 STORE F TO U:UICT
             ENDIF
         ENDIF <ALL BLANKS>
     ENDDO <U:DOCT .AND. U:UICT>
     RELEASE U:UICT,U:DOCT
     @ 23,20 SAY '                                              '

*****   DOCUMENT NUMBER END

     STORE T TO U:QTYDEF
     DO WHILE U:QTYDEF
         @ 10,35 SAY ' '  GET M:QTYDEF PICTURE '999999'
         READ
         IF M:QTYDEF < 1 .OR. M:QTYDEF > 999999
             @ 23,20 SAY ' DEFICIENT # OUT OF RANGE'
         ELSE
             STORE F TO U:QTYDEF
         ENDIF
     ENDDO U:QTYDEF
     RELEASE U:QTYDEF
     @ 23,25 SAY '                                        '

     STORE T TO U:UI
     DO WHILE U:UI
         @ 11,35 SAY ' ' GET M:UI PICTURE 'AA'
         READ
         IF $(M:UI,1,1) = ' ' .OR. $(M:UI,2,1) = ' '
             @ 23,30 SAY ' NO BLANKS'
         ELSE
              STORE F TO U:UI
         ENDIF
     ENDDO U:UI
     @ 23,30 SAY '                      '
     RELEASE U:UI

     STORE T TO U:EPRC
     STORE T TO U:UPRC
     DO WHILE U:UPRC .OR. U:EPRC
        DO WHILE U:UPRC
          @ 12,35 SAY ' 'GET M:UPRC PICTURE '999999.99'
          READ
          IF M:UPRC < .01 .OR. M:UPRC > 999999.99
              @ 23,30 SAY ' AMOUNT OUT OF RANGE '
          ELSE
              STORE F TO U:UPRC
          ENDIF
        ENDDO U:UPRC
        @ 23,30 SAY '                                '
        STORE (M:UPRC * M:QTYDEF) TO M:EPRC
        STORE T TO U:EPRC
```

[illegible]

```
         DO WHILE U:EPRC
            @ 12,50 SAY 'EXT PRICE $'
            @ 12,61 SAY M:EPRC  PICTURE '99999999.99'
            IF M:EPRC >= 100000000
               @ 23,30 SAY ' EXTENDED PRICE OUT OF RANGE'
            ELSE
               STORE F TO U:EPRC
            ENDIF
         ENDDO <U:EPRC>
      ENDDO <U:UPRC & U:EPRC>
      RELEASE U:UPRC,U:EPRC

       STORE T TO U:ORG
       DO WHILE U:ORG
           @ 13,35 SAY ' ' GET M:ORG PICTURE 'AAX'
           READ
           IF $(M:ORG,1,1) =' '.OR. $(M:ORG,2,1) = ' '
              @ 23,20 SAY ' FIRST 2 POSITIONS MAY NOT';
                          +'  CONTAIN BLANKS'
           ELSE
                STORE F TO U:ORG
           ENDIF
       ENDDO <U:ORG>
       @ 23,20 SAY '                                              '
       RELEASE U:ORG

       IF M:COG ='9C'
           STORE T TO U:9Q
           DO WHILE U:9Q
               @ 14,35 SAY ' ' GET M:09Q PICTURE 'X'
               READ
               IF M:09Q ='2' .OR. M:09Q ='4' ;
                  .OR. M:09Q ='5' .OR. M:09Q ='7';
                  .OR. M:09Q ='9' .OR. M:09Q =' '
                     STORE F TO U:9Q
               ELSE
                     @ 23,30 SAY ' OUT OF RANGE'
               ENDIF
           ENDDO <U:9Q>
           @ 23,30 SAY '                                          '
           RELEASE U:9Q
       ENDIF <M:COG = 9Q>

       @ 15,35 SAY ' ' GET M:SCRQTY PICTURE '999999'
       READ


       @ 16,35 SAY ' ' GET M:SCR PICTURE 'XXX'
       READ

       STORE T TO U:DOC
       DO WHILE U:DOC

           @ 17,35 SAY ' ' GET M:DOC PICTURE '9'
           READ
           IF M:DOC < '1' .OR. M:DOC > '7'
              @ 23,30 SAY ' 1 THROUGH 7 ONLY'
           ELSE
               STORE F TO U:DOC
           ENDIF
       ENDDO <U:DOC>
       @ 23,30 SAY '                                    '
       RELEASE U:DOC

       @ 18,35 SAY ' ' GET M:VLC PICTURE 'A'

       @ 19,35 SAY ' ' GET M:CR PICTURE 'A'

       @ 20,35 SAY ' ' GET M:DEF PICTURE '99'
```

```
          READ

          STCRE T TO U:END
          DO WHILE U:END

              STORE ' ' TO U:REPLY
              @ 22,10 SAY '<CHOOSE> 1- CONTINUE   2- CHANGE';
                          +'   3- EXIT'
              @ 23,30 SAY ' 'GET U:REPLY PICTURE '9'
              READ
              IF U:REPLY <> '1' .AND. U:REPLY <> '2' .AND.;
                 U:REPLY <> '3'
                  @ 23,10 SAY 'ANSWER WITH A 1 - 2 - 3  .CNLY'
            ELSE
                  STORE F TO U:END
              ENDIF
          ENDDO <U:END>
          @ 23,10 SAY '                                            '

          IF U:REPLY = '2'
              STORE T TO U:FIRSTPG
              @ 22,10 SAY '                                            '
              @ 23,10 SAY '                                            '
          ELSE
              IF U:REPLY ='3'

                  STORE F TO U:FIRSTPG
                  STORE F TO U:CONT1
                  STORE F TO U:CONT2
                  STORE F TO U:CONT3
                  IF U:FILE = 'OPEN'
                      STORE '1G' TO M:TYPE
                  ELSE
                     STORE '3G' TO M:TYPE
                  ENDIF
                  DO C:XDBHNDLR
                  RELEASE ALL EXCEPT C:*
                  RETURN
              ELSE

                  STORE F TO U:FIRSTPG
                  STORE T TO U:CONT2
                  STORE F TO U:CONT1
                  IF U:FILE = 'OPEN'
                      STORE '1C' TO M:TYPE
                  ELSE
                      STORE '3C' TO M:TYPE
                  ENDIF

              ENDIF
          ENDIF
      ENDDO <U:FIRSTPG>
      ERASE
      RELEASE U:END,U:COUNT,U:FIRSTPG

***** CHOICE ABOVE ALLOWS ANALYST TO ABANDON OR TO POST
***** CHANGES MADE THUS FAR

ENDDO <U:CONT1>
RELEASE U:CCNT1

IF U:REPLY <> '3'
    @ 10,20 SAY 'RECCRD BEING PARTIALLY UPDATED'
    @ 13,20 SAY '      PLEASE STANDBY            '


***** WRITE DATA TO OPEN1/CLOSE1 AND RELEASE UNNECESSARY
***** VARIABLES BEFORE READING OPEN2/CLOSE2 FOR FURTHER
***** UPDATE INFORMATION
```

```
    DC C:XDBHNDLR
    RELEASE M:COG,M:CAT,M:NOMEN,M:UIC,M:UI,M:QTYDEF,M:UPRC,;
            M:EPPC,M:CRG,M:DOC,M:DOCNO,M:DATES,M:REPCON,;
            M:FSCM,M:NUM,M:CP,M:SCR,M:SM
    RELEASE M:O9Q,M:DEF,M:VLC,M:ACTPT,SCRQTY,M:DDATE

    IF U:FILE = 'OPEN'
       STORE '2E' TO M:TYPE
    ELSE
       STORE '4E' TO M:TYPE
    ENDIF
    DO C:XDBHNDLR
ENDIF

DO WHILE U:CONT2

STORE $(M:DITEM,1,7) TO U:TYPE
STORE $(M:DITEM,8,6) TO U:SERNO
STORE $(M:DITEM,14,10) TO U:HASSY
STORE $(M:DITEM,24,12) TO U:SASSY
STORE '     ' TO M:OVER

***** DISPLAY FOR SECOND SCREEN OF UPDATE PROGRAM

ERASE

@  1,2 SAY '       NSN:'
@  1,16  SAY $(M:NSN,1,4)+'-'+$(M:NSN,5,2)+'-'+$(M:NSN,7,3);
         +'-'+$(M:NSN,10,4)
@  1,55 SAY 'CASE NUMBER:'
@  1,67 SAY M:CASE
@  2,2 SAY '       MFG. PART NUMBER                ' GET M:MFG ;
       PICTURE 'XXXXXXXXXXXXXXXX'
@  3,2 SAY '       SERIAL/LOT/BATCH                ' GET M:LOT ;
       PICTURE 'XXXXXXXXX'
@  4,2 SAY '       ITEM         N OR O             ' GET M:ITEM;
       PICTURE 'A'
@  5,2 SAY '       DATE MFG/REP/OVHL               ' GET M:OVER;
       PICTURE '99999'
@  6,2 SAY '       OPN TIME AT FAILURE             ' GET M:OTF ;
       PICTURE 'AXXXX'
@  7,2 SAY '       GOV FURNISHED MATL              ' GET M:GOV ;
       PICTURE 'A'
@  8,2 SAY '       QUANTITY: RECV/INSP/STK        'GET M:QTYREC;
       PICTURE '999999'
@ 8,43 SAY '/' GET M:QTYINS PICTURE '999999'
@ 8,50 SAY '/' GET M:QTYSTK PICTURE '999999'
@  9,2 SAY '       TYPE/MODEL/SERIES               ' GET U:TYPE ;
       PICTURE 'XXXXXXX'
@ 10,2 SAY '       SERIAL NUMBER                   ' GET U:SERNO;
       PICTURE 'XXXXXX'
@ 11,2 SAY '       NEXT HIGHER ASSY                ' GET U:HASSY;
       PICTURE 'XXXXXXXXXX'
@ 12,2 SAY '       SUB-ASSEMBLY                    ' GET U:SASSY;
       PICTURE 'XXXXXXXXXXXX'
@ 13,2 SAY '       ESTIMATED CORRECTION COST       ' GET M:CCOST;
       PICTURE '999999999.99'
@ 14,2 SAY '       WORK UNIT CODE                  ' GET M:WUC ;
       PICTURE 'XXXXXXX'
@ 15,2 SAY '       DEFECT VERIF   - N/O/U/Y        ' GET M:DEFV;
       PICTURE 'A'
@ 16,2 SAY '       DEFECT RESP    - C/N/S/U/X      ' GET M:DEFR ;
       PICTURE 'A'
@ 17,2 SAY '       STATUS CODE                     ' GET ;
       M:STATUSC PICTURE 'AA'
@ 18,2 SAY '       CAUSE CODE                      ' GET ;
       M:CAUSEC PICTURE 'A'
@ 19,2 SAY '       ACTION/DISP -H/I/D/R/O          ' GET ;
```

```
        M:ACTDISP PICTURE 'X'
@ 20,2 SAY '       WARRANTY ' GET M:WNTY PICTURE 'A'
@ 20,19 SAY 'COST CODE ' GET M:COSTC PICTURE 'A'
@ 20,30 SAY ' ACTION CODE' GET M:ACTTKN PICTURE 'AAA'
@ 21,2 SAY '       RETURN CODE                    ' GET M:RETC ;
        PICTURE '9'
CLEAR GETS

      @ 22,10 SAY '            ENTER  <N> TO SKIP '
      @ 23,3C SAY ' ' GET U:REPLY
      READ
      IF !(U:REPLY) = 'N'
          STORE F TO U:PAGE2
          STCRE F TO U:CONT2
          STORE T TO U:CONT3
      ELSE
          STORE T TO U:PAGE2
      ENDIF
      @ 22,10 SAY '                                         '
      @ 23,10 SAY '                                         '
      DO WHILE U:PAGE2

***** INPUT MANUFACTURERS PART NUMBER

      @  2,35 SAY ' ' GET M:MFG PICTURE 'XXXXXXXXXXXXXXXXXX'
      @  3,35 SAY ' ' GET M:LOT PICTURE 'XXXXXXXXX'

          STCRE T TO U:ITEM
          DO WHILE U:ITEM

              @  4,35 SAY ' ' GET M:ITEM PICTURE 'A'
              READ
              IF M:ITEM = 'N' .OR. M:ITEM = 'O' ;
                 .OR. M:ITEM = ' '
                    STCRE F TO U:ITEM
              ELSE
                    @ 23,30 SAY ' USE N OR O '
              ENDIF
          ENDDO  <U:ITEM>
          @ 23,30 SAY '                                       '
          RELEASE U:ITEM
          IF M:ITEM <> ' '

***** THE NEXT FIVE LINES CALCULATE EARLIEST YEAR TO ALLOW
***** FOR OVERHAUL ENTRY

          STORE $(C:JULIAN,1,2) TO TEMP1
          STCRE VAL(TEMP1) TO TEMP1A
          STORE VAL('10') TO LOW
          STCRE TEMP1A-LOW TO TEMP2
          STORE STR(TEMP2,2) TC U:TENYRS
          RELEASE TEMP1,TEMP1A,TEMP2,LOW

          STORE T TO U:OVER
          DO WHILE U:OVER
              @  5,35 SAY ' ' GET M:OVER PICTURE '99999'
              READ
              IF $(M:OVER,3,3) > '365' ;
                 .OR. $(M:OVER,1,2) < U:TENYRS ;
                 .OR. $(M:OVER,1,2) > U:ULIMIT
                    @ 23,30 SAY 'DATE OUT OF RANGE'
              ELSE
                    STORE F TO U:OVER
              ENDIF
          ENDDO <U:OVER>
          ENDIF
          RELEASE U:OVER,U:TENYRS
```

```
STORE T TO U:OTF
DO WHILE U:OTF
    @  6,35 SAY ' ' GET M:OTF PICTURE 'A9999'
    READ
    IF M:OTF = '     '
        STORE F TO U:OTF
    ELSE
        IF $(M:OTF,1,1) = 'N'.OR.$(M:OTF,1,1) ='O';
           .AND. $(M:OTF,2,4) > '0000'
               STORE F TO U:OTF
        ELSE
               @ 23,30 SAY ' USE  N OR O AND THEN
                                   TIME  (A9999)'
        ENDIF
   ENDIF
ENDDO  <U:OTF>
@ 23,30 SAY '                                         '
RELEASE U:OTF

STORE T TO U:GOV
DO WHILE U:GOV
    @  7,35 SAY ' ' GET M:GOV PICTURE 'A'
    READ
    IF M:GOV = ' ' .OR.  M:GOV = 'Y'.OR. M:GOV ='N'
        STORE  F TO U:GOV
    ELSE
        @ 23,30 SAY 'USE EITHER Y OR N'
    ENDIF
ENDDO <U:GOV>
@ 23,30 SAY '                                           '
RELEASE U:GOV

STORE T TO U:QTYRECT
DO WHILE U:QTYRECT

    @  8,35 SAY ' ' GET M:QTYREC  PICTURE '999999'
    READ
    IF M:QTYREC < 0 .OR. M:QTYREC > 999999
        @ 23,30 SAY 'OUT OF RANGE'
    ELSE
        STORE F TO U:QTYRECT
    ENDIF
ENDDO
@ 23,30 SAY '                                       '
RELEASE U:QTYRECT
STORE T TO U:QTYINS
DO WHILE U:QTYINS
    @  8,43 SAY '/' GET M:QTYINS  PICTURE '999999'
    READ
    IF M:QTYINS < 0 .OR. M:QTYINS > 999999
        @ 23,30 SAY ' OUT OF RANGE'
    ELSE
        STORE F TO U:QTYINS
    ENDIF
ENDDO <U:QTYINS>
@ 23,30 SAY '                                         '
RELEASE U:QTYINS

STORE T TO U:QTYSTK
DO WHILE U:QTYSTK
    @  8,50 SAY  '/' GET M:QTYSTK  PICTURE '999999'
    READ
    IF M:QTYSTK < 0 .OR. M:QTYSTK  > 999999
        @ 23,30 SAY 'IN STOCK # OUT OF RANGE'
    ELSE
        STORE F TO U:QTYSTK
    ENDIF
```

```
ENDDO U:<QTYSTK>
@ 23,30 SAY '                                        '
RELEASE U:QTYSTK

@ 9,35 SAY ' ' GET U:TYPE PICTURE 'XXXXXXX'

@ 10,35 SAY ' ' GET U:SERNO PICTURE 'XXXXXX'

@ 11,35 SAY ' ' GET U:HASSY PICTURE 'XXXXXXXXXX'

@ 12,35 SAY ' ' GET U:SASSY PICTURE 'XXXXXXXXXXXX'
READ

STORE U:TYPE+U:SERNO+U:HASSY+U:SASSY TO M:DITEM

@ 13,35 SAY ' ' GET M:CCOST PICTURE '999999999.99'
READ

@ 14,35 SAY ' ' GET M:WUC PICTURE 'XXXXXXX'
READ

@ 15,35 SAY ' ' GET M:DEFV PICTURE 'A'

STORE T TO U:DEFV
DO WHILE U:DEFV
    @ 15,35 SAY '  ' GET M:DEFV PICTURE 'A'
    READ
    IF M:DEFV = 'N' .OR. M:DEFV = 'O' ;
        .OR. M:DEFV = 'U' .OR. M:DEFV= 'Y' ;
        .OR. M:DEFV = ' '
         STORE F TO U:DEFV
    ELSE
         @ 23,30 SAY ' CORRECT CODE MUST BE ENTERED'
    ENDIF
ENDDO <U:DEFV>
@ 23,30 SAY '                                       '
RELEASE U:DEFV

STORE T TO U:DEFR
DO WHILE U:DEFR
    @ 16,35 SAY '  ' GET M:DEFR PICTURE 'A'
    READ
    IF M:DEFR = 'C' .OR. M:DEFR = 'N' ;
        .OR. M:DEFR = 'S' .OR. M:DEFR = 'U' ;
        .OR. M:DEFR = 'X' .OR. M:DEFR = ' '
         STORE F TO U:DEFR
    ELSE
         @ 23,30 SAY 'CORRECT CODE MUST BE ENTERED'
    ENDIF
ENDDO <U:DEFR>
@ 23,30 SAY '                                         '
RELEASE U:DEFR

@ 17,35 SAY ' ' GET M:STATUSC PICTURE 'AA'
READ

@ 18,35 SAY ' ' GET M:CAUSEC PICTURE 'A'
READ

@ 19,35 SAY ' ' GET M:ACTDISP PICTURE 'X'
READ

STORE T TO U:WNTY
DO WHILE U:WNTY
    @ 20,2 SAY '      WARRANTY 'GET M:WNTY
    READ
    IF M:WNTY = 'Y' .OR. M:WNTY ='N' ;
        OR. M:WNTY = 'U'
          STORE F TO U:WNTY
```

```
        ELSE
             @ 23,30 SAY 'Y, U OR N ONLY'
        ENDIF
     ENDDO
     @ 23,30 SAY '
     RELEASE U:WNTY

     @ 20,19 SAY 'COST CODE ' GET M:COSTC PICTURE 'A'

     @ 20,30 SAY 'ACTION CODE'GET M:ACTTKN PICTURE 'AAA'
     @ 21,35 SAY ' ' GET M:RETC PICTURE '9'
     READ

     STORE T TO U:END
     DO WHILE U:END

        STORE ' ' TO U:REPLY
        @ 22,10 SAY '    <CHOOSE> 1- CONTINUE  2- CHANGE'
        @ 23,35 SAY ' ' GET U:REPLY PICTURE '9'
        READ
        IF U:REPLY <> '1' .AND. U:REPLY <> '2'
             @ 23,C5 SAY 'ANSWER WITH A 1 OR 2 ONLY '
        ELSE
             STORE F TO U:END
        ENDIF
     ENDDO <U:END>
     @ 23,05 SAY '

      IF U:REPLY = '2'
           STORE T TO U:PAGE2
           @ 22,10 SAY '
           @ 23,10 SAY '
      ELSE
           STORE F TO U:CONT2
           STORE T TO U:CONT3
           STORE F TO U:PAGE2
      ENDIF
   ENDDO <U:PAGE2>
   ERASE
   RELEASE U:TYPE,U:SERNO, U:SASSY, U:HASSY,U:END,U:PAGE2
ENDDO <U:CONT2>

***** START OF THE THIRD SCREEN FOR THE UPDATE PROGRAM

ERASE
 DO WHILE U:CONT3

***** DISPLAY OF CASE DATA FROM OPEN2 DETAILS & REPLY

   @  1,2 SAY '          NSN:'
   @  1,17  SAY $(M:NSN,1,4)+'-'+$(M:NSN,5,2)+'-';
                +$(M:NSN,7,3)+'-'+$(M:NSN,10,4)
   @  1,55 SAY 'CASE NUMBER: '
   @  1,68 SAY M:CASE
   @  5,2  SAY 'DETAILS OF DISCREPANCY - FIRST 2 LETTERS'
   @  6,10 SAY '      MUST BE WHERE DISCOVERED CODE'
   @  8,10 SAY ' ' GET M:DETAILS
   @ 13,2  SAY 'REPLY FROM ITEM MANAGER'
   @ 14,10 SAY ' ' GET M:REPLY
   CLEAR GETS


     STORE ' ' TO U:REPLY
     @ 22,10 SAY '     ENTER  <N> TO SKIP  & UPDATE RECORD'
     @ 23,30 SAY ' 'GET U:REPLY
```

```
      READ
         IF !(U:REPLY) = 'N'
             STORE F TO U:PAGE3
             STORE F TO U:CONT3
         ELSE
             STORE T TO U:PAGE3
         ENDIF
         @ 22,10 SAY '                                                  ';
                  +'                        '

***** SKIP THIRD PAGE OF UPDATE IF REPLY WAS <N>

     DO WHILE U:PAGE3

         STORE T TO U:DISCODE
         DO WHILE U:DISCODE

             @ 8,10 SAY ' ' GET M:DETAILS
             READ
             STORE  $(M:DETAILS,1,2) TO M:DIS
             USE D:WHEREDIS INDEX D:DISCODE
             FIND &M:DIS
             IF  # = 0
                @ 23,30 SAY 'WHERE DISCOVERED CODE INCORRECT'
             ELSE
                  STORE F TO U:DISCODE
             ENDIF
         ENDDO <U:DISCODE>
         @ 23,30 SAY '                                           '
         RELEASE U:DISCODE

         @ 14,10 SAY ' ' GET M:REPLY
         READ
         STORE T TO U:END
         DO WHILE U:END
            STORE ' ' TO U:REPLY
            @ 21,10 SAY '    *******   CHECK PREVIOUS';
                     +' ENTRIES  ******* '
            @ 22,10 SAY '          <CHOOSE> 1- CONTINUE ';
                       +'   2- CHANGE '
            @ 23,35 SAY ' ' GET U:REPLY
            READ
            IF U:REPLY <> '1' .AND. U:REPLY <> '2'
                @ 23,10 SAY ' ANSWER WITH A 1 OR 2 ONLY'
            ELSE
                STORE F TO U:END
            ENDIF
        ENDDO <U:END>
          @ 23,10 SAY '                                        '
          IF U:REPLY = '2'
              STORE T TO U:PAGE3
              @ 22,10 SAY '                                      '
              @ 23,10 SAY '                                      '
          ELSE
              STORE F TO U:PAGE3
              STORE F TO U:CONT3
          ENDIF
      ENDDO <U:PAGE3>
      RELEASE U:PAGE3,U:COUNT
      ERASE

ENDDO <U:CONT3>
      IF U:REPLY  <> '3'
          @ 10,20  SAY 'YOUR CASE IS BEING UPDATED NOW'
          @ $+2,20 SAY '      PLEASE STANDBY           '
      ENDIF
      IF U:REPLY  <> '3'
          IF U:FILE = 'OPEN'
              STORE '2C' TO M:TYPE
```

```
          ELSE
              STORE '4C' TO M:TYPE
          ENDIF
          DO C:XDBHNDIF
      ENDIF

    RELEASE U:CONT3,U:REPLY,U:END
    RELEASE ALL EXCEPT C:*
    STORE T TO U:UPDATE
ENDDO <U:UPDATE>
RETURN

*****  END OF PROGRAM
```

VI. CASE CLOSING MODULE

```
******************************************************************
**                                                              **
**   Date: 18 December  1984                                    **
**   Version: 1.0                                               **
**   Module Name: CLOSREC                                       **
**   Module Purpose: Close Current Case                         **
**   Module Interface Definition                                **
**      Inputs: C:WHO, C:JULIAN                                 **
**      Outputs: None                                           **
**   Module Processing Narrative Description:                   **
**                                                              **
**      Prompts the Analyst for the desired closing date        **
**      to assign to the case and then for the case             **
**      number.  The database is searched and                   **
**      reads current values.  Insures that there are           **
**      transmittal and return dates assigned. If not           **
**      then the case must be updated before closing.           **
**      If dates are present, the credit code and vendor        **
**      liability codes must be entered in response to          **
**      the prompts.  The case is then written to the           **
**      CLOSE1 and CLOSE2 Databases and is marked for           **
**      deletion in the OPEN1 and OPEN2.                        **
**                                                              **
**   Superordinate Modules: MENU1                               **
**   Subordinate Modules: XDBHNDLR                              **
**   Author: J.G. BOYNTON                                       **
**                                                              **
******************************************************************
ERASE
STORE T TO CL:CLOSE
DO WHILE CL:CLOSE
TEXT
                              *****   CLOSE CASE   *****


                             This program enables you to

                                   CLOSE A QDR CASE




                                    1 - Continue

                                    2 - Return to Menu
ENDTEXT

    STORE ' ' TO CL:REPLY
    @ 20,38 SAY ' ' GET CL:REPLY
    READ
    DO WHILE CL:REPLY <> '1' .AND. CL:REPLY <> '2'
            @ 23,20 SAY '      ANSWER WITH A 1 OR 2 ONLY'
            @ 20,38 SAY ' ' GET CL:REPLY
            READ
    ENDDO <CL:REPLY>

    ERASE
    IF CL:REPLY = '2'
         RELEASE ALL EXCEPT C:*
```

```
       RETURN
  ENDIF

  STORE '       ' TO LC:CLDATE
  STORE '        ' TC M:CASE
  STORE ' ' TO CL:VIC
  STORE ' ' TO CL:CR

      @ 10,25 SAY '*****  CLOSE CASE   *****'
      STORE T TO CL:DATET
      DO WHILE CL:DATET


          @ 14,26 SAY 'CLOSING DATE   MMDDYY  ';
                       GET LC:CLDATE
          READ
          IF LC:CLDATE = '      '
               RELEASE ALL EXCEPT C:*
               RETURN
          ENDIF

          STORE $(LC:CLDATE,5,2) TO CL:TEMP1
          STORE VAL(CL:TEMP1)-1 TO CL:LOWDATE
          STORE STR(CL:LOWDATE,2)  TO CL:LDATE

          IF $(LC:CLDATE,1,2) <'01';
             .OR.  $(LC:CLDATE,1,2)  > '12';
             .OR.  $(LC:CLDATE,3,2)  <'01' ;
             .OR.  $(LC:CLDATE,3,2)  > '31';
             .OR.  $(LC:CLDATE,5,2)>$(C:JULIAN,1,2)

                 @ 23,30 SAY ' DATE OUT OF RANGE'
          ELSE
               STORE F TO CL:DATET
          ENDIF
      ENDDO <CL:DATET>
      @ 23,30 SAY '                    '
      RELEASE CL:DATET,CL:LDATE,CL:LOWDATE,CL:TEMP1

   STORE T TO CL:MORE
   DO WHILE CL:MORE

               @ 10,25 SAY ' *****  CLOSE CASE   *****    '
               @ 14,26 SAY 'CLOSING DATE   MMDDYY  ';
                       GET LC:CLDATE
               CLEAR GETS

      STORE T TO CL:REPLY
      DO WHILE CL:REPLY
          @ 15,26 SAY 'CASE NUMBER                ';
                  GET M:CASE PICTURE '999999X!'
          READ
          USE D:OPEN1 INDEX  D:OCASE1
          FIND &M:CASE
          IF # = 0
               STORE ' ' TO CL:AGAIN
               @ 20,22 SAY '   That Case Not In Open File'
               @ 22,18 SAY ' 1-To Try Again  2-To Return';
                          +' To Menu'
               @ 23,33 SAY ' ' GET CL:AGAIN
               READ
               IF CL:AGAIN <> '1'
                  RELEASE ALL EXCEPT C:*
                  RETURN
               ENDIF
          ELSE

               IF .NOT. *
                    STORE F TO CL:REPLY
```

```
                STORE T TO CL:FILLED
            ENDIF
            IF *
                STORE ' ' TO CL:AGAIN
                @ 20,22 SAY '       That CASE Already';
                        +' CLOSED'
                @ 22,22 SAY '  1-To Try Again 2-To ';
                        +'Return To Menu'
                @ 23,33 SAY ' ' GET CL:AGAIN
                READ
                IF CL:AGAIN<>'1'
                    RELEASE ALL EXCEPT C:*
                    RETURN
                ENDIF
            ENDIF

        ENDIF
    ENDDO <CL:REPLY>
    @ 20,22 SAY '                                            ';
         +'                    '
    @ 22,18 SAY '                                            ';
         +'                    '
    @ 23,33 SAY '                                            ';
         +'                    '

***** GO TO THE OPEN CASE FILE  AND READ THE CURRENT VLC
***** AND CREDIT CODE

    STORE M:CASE TO M:KEY
    STORE '1E' TO M:TYPE
    DO C:XDBHNDLR

    STORE $(M:DATES,1,5) TO M:DDATE
    STORE $(M:DATES,6,5) TO M:RDATE
    STORE $(M:DATES,11,5) TO M:OPEN
    STORE $(M:DATES,16,5) TO M:LDATE
    STORE $(M:DATES,21,5) TO M:SCRDATE
    STORE $(M:DATES,26,5) TO M:IRDATE
    STORE $(M:DATES,31,5) TO M:RIMDAT
    STORE $(M:DATES,36,5) TO M:CLOSE
    STORE $(M:DATES,41,5) TO M:REOPEN

    IF M:RDATE ='     '.OR. M:OPEN='     ' .OR. ;
               M:LDATE='     '.OR. M:RIMDAT = '     '
         @ 20,20 SAY 'Key Date/Dates Are Missing.';
                 +' CASE may NOT'
         @ 21,20 SAY 'Be Closed Until Update Is ';
                 +'Accomplished'
         @ 23,20 SAY ' Press Any Key To Continue'
         WAIT
         ERASE
         @ 10,25 SAY '***** Please Standby *****'

         STORE '1G' TO M:TYPE
         DO C:XDBHNDLR
         STORE F TO CL:FILLED
    ENDIF

*****  IF THE CASE IS COMPLETE AND READY TO BE CLOSED

    IF CL:FILLED

        STORE T TO CL:VLCT
        DO WHILE CL:VLCT

            @ 16,26 SAY 'VENDOR LIABILITY CODE  ';
                    GET CL:VLC PICTURE 'A'
            READ
            IF CL:VLC = ' '
```

```
                    @ 23,30 SAY 'VENDOR CODE MAY NOT ';
                            +'BE BLANK'
                ELSE
                    STORE F TO CL:VLCT
                ENDIF
            ENDDO <CL:VLCT>
            @ 23,30 SAY '                                  ';
                    +'     '
            RELEASE CL:VLCT

            STORE T TO CL:CRT
            DO WHILE CL:CRT
                @ 17,26 SAY 'CREDIT CODE                  ' ;
                        GET CL:CR
                READ
                IF CL:CR = ' '
                    @ 23,30 SAY ' CREDIT CODE MAY NOT ';
                            +'BE BLANK'
                ELSE
                    STORE F TO CL:CRT
                ENDIF
            ENDDO <CL:CRT>
            @ 23,30 SAY '                                      ';
                    +'     '
            RELEASE CL:CRT

            STORE ' ' TO CL:REPLY

            @ 20,22 SAY '1 - CLOSE CASE  2 - CHANGE  ';
                    +'3 - EXIT'
            @ 22,40 GET CL:REPLY
            READ
            IF CL:REPLY = '3'
               RELEASE ALL EXCEPT C:*
               RETURN
            ENDIF
            IF CL:REPLY = '1'
                 ERASE
                 @  12,30 SAY 'CASE NUMBER'
                 @  12,44 SAY M:CASE
                 @  14,31 SAY 'IS BEING CLOSED'
                 @  16,30 SAY '  PLEASE STANDBY'

***** TRANSLATE LC:CLDATE FROM MMDDYY TO JULIAN FORM

                 STORE VAL($(LC:CLDATE,1,2)) TO V:MM
                 STORE VAL($(LC:CLDATE,3,2)) TO V:DD
                 STORE VAL($(LC:CLDATE,5,2)) TO V:YY
                 DO C:OJULIAN
                 STORE V:JULDATE TO M:CLOSE
                 RELEASE ALL LIKE V:*
                 STORE M:CASE TO M:KEY

***** PUT CLOSING DATE INTO PROPER FORMAT FOR STORAGE

                 STORE $(M:DATES,41,5) TO M:REOPEN
                 STORE $(M:DATES,1,35) + M:CLOSE +;
                       M:REOPEN TO CL:DATES
                 STORE CL:DATES TO M:DATES
                 STORE CL:VLC TO M:VLC
                 STORE CL:CR TO M:CR
                 STORE '1C' TO M:TYPE
                 STORE M:REC1 TO T:REC1

                 DO C:XDBHNDLR

***** CREATE RECORD IN CLOSE1

                 STORE '3F' TO M:TYPE
```

```
                    DO C:XDBHNDLR
                    STORE M:CASE TO T:CASE
                    RELEASE ALL LIKE M:*
                    STORE T:CASE TO M:CASE
                    USE D:OPEN1 INDEX D:OCASE1,D:ONSN
                    GOTO T:REC1
                    DELETE
                    STORE '2B' TO M:TYPE

                    STORE T:CASE TO M:KEY
                    DO C:XDBHNDLR

                    STORE # TO T:REC2
                    STORE '4F' TO M:TYPE

                    DO C:XDBHNDLR

                    STORE M:CASE TO T:CASE
                    RELEASE ALL LIKE M:*
                    STORE T:CASE TO M:CASE
                    USE D:OPEN2 INDEX D:OCASE2
                    GOTO T:REC2
                    DELETE

                   STORE F TO CL:ENTER
                   ERASE
               ENDIF
               @ 20,22 SAY '                                         ';
                       +'          '
               @ 22,22 SAY '                                         ';
                       +'          '
               ERASE
         ENDIF <CL:FILLED>
      ENDDO <CL:MORE>
      RELEASE ALL LIKE CL:*
      RELEASE ALL LIKE M:*
      RELEASE ALL LIKE T:*
      STORE T TO CL:CLOSE
ENDDO <CL:CLOSE>

***** END OF PROGRAM
```

VII. DATA BASE HANDLER MODULE

```
*****************************************************************
**                                                             **
**   DATE: 29 NOV 1983                                         **
**   VERSION: 1.0                                              **
**   MODULE NAME: XDBHNDLR                                     **
**   MODULE PURPOSE: TO PROVIDE ACCESS TO THE DATA BASE        **
**                   RECORDS FOR READ AND UPDATE               **
**                                                             **
**   MODULE INTERFACE DEFINITION                               **
**                                                             **
**      INPUTS: M:CASE, M:COG, M:NSN, M:CAT, M:NOMEN,          **
**              M:UIC, M:UI, M:QTYDEF, M:UPRC, M:EPRC,         **
**              M:ORG, M:DOC, M:DOCNO, M:DATES, M:REPCON,      **
**              M:FSCM, M:TIME, M:WHO, M:NUM, M:CR, M:SCR,     **
**              M:SM, M:09Q, M:DEF, M:VLC, M:ACTPT,            **
**              M:SCRQTY, M:REC1, M:QTYINS, M:QTYREC,          **
**              M:QTYSTK, M:DEFV, M:DEFR, M:ITEM, M:OVER,      **
**              M:OTF, M:GOV, M:DITEM, M:CCOST, M:WNTY,        **
**              M:WUC, M:DIS, M:DETAILS, M:REPLY,              **
**              M:ACTTKN, M:COSTC, M:STATUSC, M:CAUSEC,        **
**              M:RETC, M:ACTDISP, M:MFG, M:LOT, M:TYPE        **
**                                                             **
**      OUTPUTS: M:CASE, M:COG, M:NSN, M:CAT, M:NOMEN,         **
**               M:UIC, M:UI, M:QTYDEF, M:UPRC, M:EPRC,        **
**               M:ORG, M:DOC, M:DOCNO, M:DATES,               **
**               M:REPCON, M:FSCM, M:TIME, M:WHO, M:NUM,       **
**               M:CR, M:SCR, M:SM, M:09Q, M:DEF, M:VLC,       **
**               M:ACTPT, M:SCRQTY, M:REC1, M:QTYINS,          **
**               M:QTYREC, M:QTYSTK, M:DEFV, M:DEFR,           **
**               M:ITEM, M:OVER, M:OTF, M:GOV, M:DITEM,        **
**               M:CCOST, M:WNTY, M:WUC, M:DIS, M:DETAILS,     **
**               M:REPLY, M:ACTTKN, M:COSTC, M:STATUSC,        **
**               M:CAUSEC, M:RETC, M:ACTDISP, M:MFG,           **
**               M:LOT, M:TYPE                                 **
**                                                             **
**                                                             **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                  **
**        ACCEPTS THE TRANSACTION TYPE CODE AND ACCESSES       **
**        THE DATA BASE (I.E. OPEN1, OPEN2, CLOSE1,            **
**        OR CLOSE2) WITH THE DESIRED OPERATION (I.E.          **
**        READ, READ/LOCK, WRITE/UNLOCK, UNLOCK).  THE         **
**        OPERATION PERFORMED DEPENDS ON THE TYPE CODE         **
**        RECEIVED.  THE MODULE WILL RETURN A TYPE CODE        **
**        TO INDICATE THE SUCCESS OR FAILURE OF THE            **
**        OPERATION.                                           **
**                                                             **
**   SUPERORDINATE MODULES: XOPEN2, XUPDAT, CLOSREC            **
**   SUBORDINATE MODULES: NONE                                 **
**   AUTHOR: R. G. NICHOLS                                     **
**                                                             **
*****************************************************************

*****   THE GENERAL OPERATION OF THE DATA BASE HANDLER
*****   IS BASED ON A CASE CONSTRUCT

*****   M:TYPE IS THE SELECTION KEY THAT DETERMINES THE
*****   TRANSACTION TO PERFORM - THE FIRST DIGIT REPRESENTS
*****   THE FILE THAT IS TO BE USED AND THE SECOND DIGIT
*****   REPRESENTS THE TYPE OF ACTIVITY (I.E. READ ACCESS
*****   WITH NSN KEY, READ ACCESS WITH CASE KEY, READ/LOCK
*****   WRITE NEW RECORD, WRITE UPDATE UNLCOK, RECORD UNLOCK
```

```
*****   ETC.)

DO CASE

*****   USE OPEN1 DATA BASE FILE

   CASE $(M:TYPE,1,1) = '1'
      IF $(M:TYPE,2,1) = 'A' .OR. $(M:TYPE,2,1) = 'B'

*****   IF 'A' THEN ACCESS BY NSN

         IF $(M:TYPE,2,1) = 'A'
            STORE 'USE D:OPEN1 INDEX D:ONSN' TO H:USEFILE
         ELSE

*****   IF 'B' THEN ACCESS BY CASE

            STORE 'USE D:OPEN1 INDEX D:OCASE1' TO H:USEFILE
         ENDIF

*****   USE INDIRECT FILE IDENTIFICATION TO SELECT USE FILE

         &H:USEFILE
         FIND &M:KEY

*****   SEARCH FOR DESIRED RECORD.  IF FOUND RETURN DATA
*****   ELEMENTS AND SET M:TYPE TO 0 OTHERWISE SET M:TYPE
*****   TO 9

         IF # = 0
           STORE '9' TO M:TYPE
           RELEASE ALL LIKE H:*
           RETURN
         ELSE
           STORE # TO M:REC1
           STORE CASE TO M:CASE
           STORE COG TO M:COG
           STORE NSN TO M:NSN
           STORE CAT TO M:CAT
           STORE NOMEN TO M:NOMEN
           STORE UIC TO M:UIC
           STORE UI TO M:UI
           STORE QTYDEF TO M:QTYDEF
           STORE UPRC TO M:UPRC
           STORE EPRC TO M:EPRC
           STORE ORG TO M:ORG
           STORE DOC TO M:DOC
           STORE DOCNO TO M:DOCNO
           STORE DATES TO M:DATES
           STORE REPCON TO M:REPCON
           STORE FSCM TO M:FSCM
           STORE TIME TO M:TIME
           STORE WHO TO M:WHO
           STORE NUM TO M:NUM
           STORE CR TO M:CR
           STORE SCR TO M:SCR
           STORE SM TO M:SM
           STORE 09Q TO M:09Q
           STORE DEF TO M:DEF
           STORE VLC TO M:VLC
           STORE ACTPT TO M:ACTPT
           STORE SCRQTY TO M:SCRQTY
           STORE '0' TO M:TYPE
           RELEASE ALL LIKE H:*
           RETURN
        ENDIF
      ELSE

        IF $(M:TYPE,2,1) = 'H' .OR. $(M:TYPE,2,1) = 'I'
```

```
*****   READ RECORD SPECIFIED BY M:REC1 (RECORD NUMBER)
*****   IF RECORD NOT FOUND RETURN M:TYPE = 9 OTHERWISE
*****   RETURN THE RECORD ELEMENTS

             USE D:OPEN1 INDEX D:ONSN
             GOTO M:REC1
             IF # <> M:REC1
               STORE '9' TO M:TYPE
               RELEASE ALL LIKE H:*
               RETURN
             ELSE

*****   IF M:TYPE = I THEN SKIP TO NEXT RECORD AND READ

               IF $(M:TYPE,2,1) = 'I'
                  SKIP
               ENDIF
               STORE # TO M:REC1
               STORE CASE TO M:CASE
               STORE COG TO M:COG
               STORE NSN TO M:NSN
               STORE CAT TO M:CAT
               STORE NOMEN TO M:NOMEN
               STORE UIC TO M:UIC
               STORE UI TO M:UI
               STORE QTYDEF TO M:QTYDEF
               STORE UPRC TO M:UPRC
               STORE EPRC TO M:EPRC
               STORE ORG TO M:ORG
               STORE DOC TO M:DOC
               STORE DOCNO TO M:DOCNO
               STORE DATES TO M:DATES
               STORE REPCON TO M:REPCON
               STORE FSCM TO M:FSCM
               STORE TIME TO M:TIME
               STORE WHO TO M:WHO
               STORE NUM TO M:NUM
               STORE CR TO M:CR
               STORE SCR TO M:SCR
               STORE SM TO M:SM
               STORE C9Q TO M:O9Q
               STORE DEF TO M:DEF
               STORE VIC TO M:VLC
               STORE ACTPT TO M:ACTPT
               STORE SCRQTY TO M:SCRQTY
               STORE '0' TO M:TYPE
               RELEASE ALL LIKE H:*
               RETURN
            ENDIF
         ELSE

*****   THE FOLLOWING SECTION OF CODE UTILIZES A DELAY LOOP
*****   AND A LOCKING MECHANISM TO ENSURE THAT ONLY ONE USER
*****   IS WRITING TO A FILE AT ANY GIVEN TIME

            STORE T TO H:FAIL
            DO WHILE H:FAIL
               STORE 0 TO H:LOOPCNTR
               STORE 2 TO H:CNTR
               USE D:FILESTAT

*****   WHILE OPEN1 IS BEING USED, ENTER DELAY LOOP

               DO WHILE OPEN1<>'     '
                  STORE H:CNTR-1 TO H:CNTR
                  IF H:CNTR=0
                     STORE 2 TO H:CNTR
                     STORE H:LOOPCNTR+1 TO H:LOOPCNTR
```

```
                    ENDIF

*****   IF IN DELAY LOOP A SHORT PERIOD OF TIME DISPLAY THE
*****   FACT THAT THE FILE IS CURRENTLY IN USE

                    IF H:LOOPCNTR=2
                    @ 23,16 SAY 'OPEN CASE FILE CURRENTLY IN USE';
                                +' - PLEASE STANDBY'
                    ENDIF

*****   CLOSE OUT THE USE FILE THEN REOPEN IT TO CHECK LATEST
*****   STATUS - THE FILE MUST FIRST BE CLOSED AND THEN
*****   REOPENED TO CHECK LATEST STATUS

                    USE
                    USE D:FILESTAT

*****   DELAY BEFORE TRYING AGAIN

                    STORE 1 TO H:DELAY
                    DO WHILE H:DELAY < 5
                      STORE H:DELAY + 1 TO H:DELAY
                    ENDDO
                 ENDDO

*****   IF FILE NOT IN USE, WRITE OUT YOUR LOCK INFORMATION

                 @ 23,16 SAY '                                    ';
                         + '                    '
                 @ 23,16 SAY '                  FILE LOCKED       ';
                         + '                    '
                 REPL OPEN1 WITH C:WHO
                 USE

*****   IF TYPE C TRANSACTION - PERFORM A WRITE/UNLOCK

                 IF $(M:TYPE,2,1) = 'C'
                    USE D:FILESTAT

*****   VERIFY THAT YOU HAVE WRITE ACCESS TO THE DATA BASE
*****   RESET THE LOCK ON THE RECORD AND WRITE OUT THE
*****   UPDATED INFORMATION

                    IF OPEN1 = C:WHO
                       STORE '           ' TO M:TIME
                       USE D:OPEN1 INDEX D:ONSN, D:OCASE1
                       GOTO M:REC1
REPL CASE WITH !(M:CASE),COG WITH !(M:COG),NSN WITH;
 !(M:NSN),CAT WITH !(M:CAT),NOMEN WITH !(M:NOMEN),UIC ;
WITH !(M:UIC),UI WITH !(M:UI),QTYDEF WITH M:QTYDEF,UPRC ;
WITH M:UPRC,EPRC WITH M:EPRC,ORG WITH !(M:ORG),DOC WITH ;
!(M:DOC)
REPL DOCNO WITH !(M:DOCNO),DATES WITH !(M:DATES),REPCON ;
WITH !(M:REPCON),FSCM WITH !(M:FSCM),TIME WITH !(M:TIME),;
WHO WITH !(M:WHO),NUM WITH !(M:NUM),CR WITH !(M:CR),SCR ;
WITH !(M:SCR),SM WITH !(M:SM),09Q WITH !(M:09Q)
REPL DEF WITH M:DEF,VLC WITH !(M:VLC),ACTPT WITH;
 !(M:ACTPT),SCRQTY WITH M:SCRQTY
                       STORE '0' TO M:TYPE
                       USE

*****   UNLOCK THE DATA FILE FOR OTHERS TO WRITE

                       USE D:FILESTAT
                       REPL OPEN1 WITH '     '
                       USE
                       RELEASE ALL LIKE H:*
                       RETURN
                    ENDIF
```

```
                ELSE

*****   IF TYPE D THEN PERFORM READ/LOCK WITH NSN ACCESS KEY

                          IF $(M:TYPE,2,1)='D' .OR. $(M:TYPE,2,1)='E'
                             IF $(M:TYPE,2,1) = 'D'
                                STORE 'USE D:OPEN1 INDEX D:ONSN, ';
                                      + 'D:OCASE1' TO H:USEFILE

*****   IF TYPE C THEN PERFORM READ/LOCK WITH CASE ACCESS KEY

                             ELSE
                                STORE 'USE D:OPEN1 INDEX D:OCASE1,';
                                      +' D:ONSN' TO H:USEFILE
                             ENDIF
                             USE D:FILESTAT

*****   CHECK TO SEE IF THE USER HAS THE FILE LOCKED FOR
*****   WRITING

                             IF OPEN1 = C:WHO
                                &H:USEFILE
                                FIND &M:KEY

*****   CHECK TO SEE IF DESIRED RECORD EXISTS.  IF SO LOCK
*****   THE RECORD BY FILLING THE TIME STAMP AND RETURN THE
*****   RECORDS CONTENTS

                                IF # = 0
                                   STORE '9' TO M:TYPE
                                   USE D:FILESTAT
                                   REPLACE OPEN1 WITH '     '
                                   USE
                                   RELEASE ALL LIKE H:*
                                   RETURN
                                ELSE

*****   CHECK TO SEE IF THE RECORD HAS PREVIOUSLY BEEN
*****   LOCKED FOR UPDATE - RETURN TYPE = 1 IF PREVIOUSLY
*****   LOCKED OTHERWISE LOCK THE RECORD BY FILLING IN THE
*****   TIMESTAMP AND READ THE RECORD

                                   IF  TIME <> '              '
                                      STORE '1' TO M:TYPE
                                      RELEASE ALL LIKE H:*
                                      USE D:FILESTAT
                                      REPLACE OPEN1 WITH '     '
                                      USE
                                      RETURN
                                   ELSE

*****   READ DATE/TIME FOR TIMESTAMP

                                      STORE   TO H:DUMMY
                                      POKE 61440, 180, 44, 205, 33,;
                                        137, 22, 13, 240, 137, 14,;
                                        15, 240, 195
                                      SET CALL TO 61440
                                      CALL H:DUMMY
                                      STORE STR(PEEK(61456),2) TC ;
                                            H:HOUR
                                      STORE STR(PEEK(61455),2) TC ;
                                            H:MIN
                                      STORE STR(PEEK(61454),2) TC ;
                                            H:SEC
                                      IF $(H:HOUR,1,1) =
                                         STORE 0 +$(H:HOUR,2,1)  ;
                                            TO H:HOUR
                                      ENDIF
```

```
                              IF $(H:MIN,1,1)=
                                 STORE 0+$(H:MIN,2,1) TO ;
                                    H:MIN
                              ENDIF
                              IF $(H:SEC,1,1)=
                                 STORE 0+$(H:SEC,2,1) TO ;
                                    H:SEC
                              ENDIF
                              STORE C:JULIAN+H:HOUR +H:MIN+;
                                    H:SEC TO M:TIME
                              REPL TIME WITH M:TIME
                              STORE # TO M:REC1
                              STORE CASE TO M:CASE
                              STORE COG TO M:COG
                              STORE NSN TO M:NSN
                              STORE CAT TO M:CAT
                              STORE NOMEN TO M:NOMEN
                              STORE UIC TO M:UIC
                              STORE UI TO M:UI
                              STORE QTYDEF TO M:QTYDEF
                              STORE UPRC TO M:UPRC
                              STORE EPRC TO M:EPRC
                              STORE ORG TO M:ORG
                              STORE DOC TO M:DOC
                              STORE DOCNO TO M:DOCNO
                              STORE DATES TO M:DATES
                              STORE REPCON TO M:REPCON
                              STORE FSCM TO M:FSCM
                              STORE TIME TO M:TIME
                              STORE WHO TO M:WHO
                              STORE NUM TO M:NUM
                              STORE CR TO M:CR
                              STORE SCR TO M:SCR
                              STORE SM TO M:SM
                              STORE 09Q TO M:09Q
                              STORE DEF TO M:DEF
                              STORE VLC TO M:VLC
                              STORE ACTPT TO M:ACTPT
                              STORE SCRQTY TO M:SCRQTY
                              STORE '0' TO M:TYPE
                              USE D:FILESTAT
                              REPL OPEN1 WITH '     '
                              USE
                              RELEASE ALL LIKE H:*
                              RETURN
                           ENDIF
                        ENDIF
                     ENDIF
                  ELSE

***** TYPE F WILL BE USED TO CREATE NEW RECORDS

                     IF $(M:TYPE,2,1) = 'F'
                        USE D:FILESTAT

*****   CHECK TO SEE IF THE USER HAS THE FILE LOCKED FOR
*****   WRITING

                        IF OPEN1 = C:WHO
*                          @ 23,25 SAY '     UPDATING CASE ';
                                   + 'FILE        '
                           USE D:OPEN1 INDEX D:OCASE1,;
                               D:ONSN

*****   IF NO CASE NUMBER HAS BEEN ASSIGNED BECAUSE OF A
*****   PREVIOUS CASE, ASSIGN A NEW CASE NUMBER

                           IF M:CASE = '        '
```

```
*****   CHECK FOR LAST CASE IN THE DATA BASE AND ASSIGN
*****   NEXT AVAILABLE NUMBER
                                    GOTO BOTTOM
                                    STORE $(CASE,1,1) TO H:YR
                                    STORE VAL($(CASE,2,5))+1 TO ;
                                          H:SERIAL
                                    IF H:SERIAL > 9999
                                       STORE H:YR + ;
                                       STR(H:SERIAL,5,0) TO M:CASE
                                    ELSE
                                       IF H:SERIAL > 999
                                          STORE H:YR + '0' + ;
                                          STR(H:SERIAL,4,0) TO ;
                                          M:CASE
                                       ELSE
                                          IF H:SERIAL > 99
                                             STORE H:YR + '00' +;
                                             STR(H:SERIAL,3,0) TO;
                                                M:CASE
                                          ELSE
                                             IF H:SERIAL > 9
                                                STORE H:YR+'000'+;
                                                STR(H:SERIAL,2,0);
                                                   TO M:CASE
                                             ELSE
                                                STORE H:YR+'0000';
                                               +STR(H:SERIAL,1,0);
                                                   TO M:CASE
                                             ENDIF
                                          ENDIF
                                       ENDIF
                                    ENDIF
                                 ENDIF
                                 @ 23,26 SAY 'CREATING NEW RECCRD';
                                         +' - OPEN1'

*****   CREATE NEW RECCRD AND FILL WITH DATA

                                 APPEND BLANK
REPL CASE WITH !(M:CASE),COG WITH !(M:COG),NSN WITH ;
!(M:NSN),CAT WITH !(M:CAT),NOMEN WITH !(M:NOMEN),UIC WITH;
 !(M:UIC),UI WITH !(M:UI),QTYDEF WITH M:QTYDEF,UPRC WITH ;
M:UPRC,EPRC WITH M:EPRC,ORG WITH !(M:ORG),DOC WITH !(M:DOC)
REPL DOCNO WITH !(M:DCCNO),DATES WITH !(M:DATES),REPCON ;
WITH !(M:REPCON),FSCM WITH !(M:FSCM),TIME WITH !(M:TIME),;
WHO WITH !(C:WHO),NUM WITH !(M:NUM),SM WITH !(M:SM),09Q ;
WITH !(M:09Q),DEF WITH M:DEF,ACTPT WITH !(M:ACTPT)
@ 23,26 SAY '                                         '
@ 23,25 SAY '                                           '
                                 STORE '0' TO M:TYPE
                                 USE D:FILESTAT
                                 REPL OPEN1 WITH '     '
                                 USE
                                 RELEASE ALL LIKE H:*
                                 RETURN
                              ENDIF
                           ELSE

*****   IF TYPE G THEN UNLOCK A PREVIOUSLY LOCKED RECORD
*****   (NO UPDATE WILL TAKE PLACE)

                              IF $(M:TYPE,2,1) = 'G'
                                 USE D:FILESTAT

*****   CHECK TO SEE IF THE USER HAS THE FILE LOCKED FOR
*****   WRITING

                                 IF OPEN1 = C:WHO
```

```
                              USE D:OPEN1
                              GOTO M:REC1

*****  CLEAR THE TIMESTAMP TO UNLOCK

                              IF TIME = M:TIME
                                 REPL TIME WITH '                    '
                              ENDIF
                              USE D:FILESTAT
                              REPL OPEN1 WITH '     '
                              USE
                           ENDIF
                           RELEASE ALL LIKE H:*
                           RETURN
                        ENDIF
                     ENDIF
                  ENDIF
               ENDIF
            ENDDO
         ENDIF
       ENDIF

*****  USE OPEN2 DATA BASE FILE

   CASE $(M:TYPE,1,1) = '2'

*****  SINCE OPEN2 HAS A SINGLE KEY, BOTH TYPE A AND B
*****  MAY BE USED FOR ACCESS

       IF $(M:TYPE,2,1) = 'A' .OR. $(M:TYPE,2,1) = 'B'
          USE D:OPEN2 INDEX D:OCASE2
          FIND &M:KEY


*****  FIND REQUESTED RECORD IF FOUND RETURN THE DATA
*****  ELEMENTS AND TYPE = 0, OTHERWISE RETURN TYPE = 9

          IF # = 0
             STORE '9' TO M:TYPE
             RELEASE ALL LIKE H:*
             RETURN
          ELSE
             STORE # TC M:REC1
             STORE CASE TO M:CASE
             STORE QTYINS TO M:QTYINS
             STORE QTYREC TO M:QTYREC
             STORE QTYSTK TO M:QTYSTK
             STORE DEFV TO M:DEFV
             STORE DEFR TO M:DEFR
             STORE ITEM TO M:ITEM
             STORE OVER TO M:OVER
             STORE OTF TO M:OTF
             STORE GOV TO M:GOV
             STORE TIME TO M:TIME
             STORE WHO TO M:WHO
             STORE DITEM TO M:DITEM
             STORE CCOST TO M:CCOST
             STORE WNTY TO M:WNTY
             STORE WUC TO M:WUC
             STORE DIS TO M:DIS
             STORE DETAILS TO M:DETAILS
             STORE REPLY TO M:REPLY
             STORE ACTTKN TO M:ACTTKN
             STORE COSTC TO M:COSTC
             STORE STATUSC TO M:STATUSC
             STORE CAUSEC TO M:CAUSEC
             STORE RETC TO M:RETC
             STORE ACTDISP TO M:ACTDISP
```

```
          STORE MFG TO M:MFG
          STORE LOT TO M:LOT
          STORE '0' TO M:TYPE
          RELEASE ALL LIKE H:*
          RETURN
       ENDIF
    ELSE

*****   IF TYPE H OR I ACCESS BY RECORD NUMBER (M:REC1)

        IF $(M:TYPE,2,1) = 'H' .OR. $(M:TYPE,2,1) = 'I'
            USE D:OPEN2
            GOTO M:REC1
            IF # <> M:REC1
              STORE '9' TO M:TYPE
              RELEASE ALL LIKE H:*
              RETURN
            ELSE

*****   IF TYPE I, SKIP TO NEXT RECORD AND READ DATA

              IF $(M:TYPE,2,1) = 'I'
                 SKIP
              ENDIF
              STORE # TO M:REC1
              STORE CASE TO M:CASE
              STORE QTYINS TO M:QTYINS
              STORE QTYREC TO M:QTYREC
              STORE QTYSTK TO M:QTYSTK
              STORE DEFV TO M:DEFV
              STORE DEFR TO M:DEFR
              STORE ITEM TO M:ITEM
              STORE OVER TO M:OVER
              STORE OTF TO M:OTF
              STORE GOV TO M:GOV
              STORE TIME TO M:TIME
              STORE WHO TO M:WHO
              STORE DITEM TO M:DITEM
              STORE CCOST TO M:CCOST
              STORE WNTY TO M:WNTY
              STORE WUC TO M:WUC
              STORE DIS TO M:DIS
              STORE DETAILS TO M:DETAILS
              STORE REPLY TO M:REPLY
              STORE ACTTKN TO M:ACTTKN
              STORE COSTC TO M:COSTC
              STORE STATUSC TO M:STATUSC
              STORE CAUSEC TO M:CAUSEC
              STORE RETC TO M:RETC
              STORE ACTDISP TO M:ACTDISP
              STORE MFG TO M:MFG
              STORE LOT TO M:LOT
              STORE '0' TO M:TYPE
              RELEASE ALL LIKE H:*
              RETURN
           ENDIF
        ELSE

*****   THE FOLLOWING SECTION REQUIRES THAT THE DATA BASE
*****   BE LOCKED TO ENSURE ONLY A SINGLE UPDATE IS
*****   PERFORMED AT A TIME

           STORE T TO H:FAIL
           DO WHILE H:FAIL
              STORE 0 TO H:LOOPCNTR
              STORE 2 TO H:CNTR
              USE D:FILESTAT

*****   LOOP WHILE OPEN2 IS LOCKED BY ANOTHER USER
```

```
            DO WHILE OPEN2<>'      '
               STORE H:CNTR-1 TO H:CNTR
               IF H:CNTR=0
                  STORE 2 TO H:CNTR
                  STORE H:LOOPCNTR+1 TO H:LOOPCNTR
               ENDIF
               IF H:LOOPCNTR=2
               @ 23,16 SAY 'OPEN CASE FILE CURRENTLY IN';
                          + ' USE - PLEASE STANDBY'
               ENDIF

*****   CLOSE AND REOPEN THE FILE STATS TO DETERMINE ANY
*****   CHANGE IN FILE LOCKING STATUS

               USE
               USE D:FILESTAT

*****   DELAY BEFORE NEXT ATTEMPT TO ACCESS THE DATA BASE

               STORE 1 TO H:DELAY
               DO WHILE H:DELAY < 5
                 STORE H:DELAY + 1 TO H:DELAY
               ENDDC
            ENDDO
            @ 23,16 SAY '                                   ';
                      + '                    '
*           @ 23,16 SAY '              FILE LOCKED          ';
                      + '                    '

*****   WRITE LOCK TO FILESTAT

            REPL OPEN2 WITH C:WHO
            USE

*****   IF TYPE C PERFORM WRITE/UNLOCK

            IF $(M:TYPE,2,1) = 'C'
               USE D:FILESTAT

*****   CHECK TO SEE IF USER HAS WRITE ACCESS TO THE DATA
*****   BASE

               IF OPEN2 = C:WHO
                  STORE '          ' TO M:TIME
                  USE D:OPEN2 INDEX D:OCASE2

*****   WRITE UPDATE INFORMATION TO THE FILE

                  GOTO M:REC1
REPL CASE WITH !(M:CASE),QTYINS WITH M:QTYINS,QTYREC WITH ;
M:QTYREC,QTYSTK WITH M:QTYSTK,DEFV WITH !(M:DEFV),DEFR ;
WITH !(M:DEFR),ITEM WITH !(M:ITEM),OVER WITH !(M:OVER),;
OTF WITH !(OTF),GOV WITH !(M:GOV),TIME WITH !(M:TIME)
REPL WHO WITH !(M:WHC),DITEM WITH !(M:DITEM),CCOST WITH ;
M:CCOST,WNTY WITH !(M:WNTY),WUC WITH !(M:WUC),DIS WITH ;
!(M:DIS),DETAILS WITH !(M:DETAILS),REPLY WITH !(M:REPLY),;
ACTTKN WITH !(M:ACTTKN),COSTC WITH !(M:COSTC)
REPL STATUSC WITH !(M:STATUSC),CAUSEC WITH !(M:CAUSEC),;
RETC WITH !(M:RETC),ACTDISP WITH !(M:ACTDISP),MFG WITH ;
!(M:MFG),LOT WITH !(M:LOT)
                  STORE '0' TO M:TYPE
                  USE

***** UNLOCK FILE FOR OTHERS USE

                  USE D:FILESTAT
                  REPL OPEN2 WITH '      '
                  USE
```

```
                    RELEASE ALL LIKE H:*
                    RETURN
                 ENDIF
              ELSE

*****   IF TYPE D OR E PERFORM READ/LOCK

                 IF $(M:TYPE,2,1) = 'D' .OR. $(M:TYPE,2,1) = 'E'
                    USE D:FILESTAT

*****   CHECK TO SEE IF USER HAS WRITE ACCESS TO THE DATA
*****   BASE

                    IF OPEN2 = C:WHO
                       USE D:OPEN2 INDEX D:OCASE2
                       FIND &M:KEY

*****   IF DESIRED RECORD FOUND VERIFY THAT RECORD IS NOT
*****   CURRENTLY IN USE - IF NOT FOUND RETURN TYPE = 9

                       IF # = 0
                          STORE '9' TO M:TYPE
                          USE D:FILESTAT
                          REPLACE OPEN2 WITH '     '
                          USE
                          RELEASE ALL LIKE H:*
                          RETURN
                       ELSE

*****   IF TIMESTAMP FILLED, RECORD IN USE - RETURN
*****   TYPE = 1

                          IF  TIME <> '             '
                             STORE '1' TO M:TYPE
                             RELEASE ALL LIKE H:*
                             USE D:FILESTAT
                             REPLACE OPEN2 WITH '     '
                             USE
                             RETURN
                          ELSE

*****   LOAD TIME/DATE INTO TIMESTAMP AND READ THE RECORD

                             STORE   TO H:DUMMY
                             POKE 61440, 180, 44, 205, 33,;
                                137, 22, 13, 240, 137, 14,;
                                15, 240, 195
                             SET CALL TO 61440
                             CALL H:DUMMY
                             STORE STR(PEEK(61456),2) TO ;
                                   H:HOUR
                             STORE STR(PEEK(61455),2) TO ;
                                   H:MIN
                             STORE STR(PEEK(61454),2) TO ;
                                   H:SEC
                             IF $(H:HOUR,1,1)=
                                STORE 0 +$(H:HOUR,2,1) ;
                                   TO H:HOUR
                             ENDIF
                             IF $(H:MIN,1,1)=
                                STORE 0+$(H:MIN,2,1) TO ;
                                   H:MIN
                             ENDIF
                             IF $(H:SEC,1,1)=
                                STORE 0+$(H:SEC,2,1) TO ;
                                   H:SEC
                             ENDIF
                             STORE C:JULIAN+H:HOUR +H:MIN+;
                                   H:SEC TO M:TIME
```

```
                                   REPL TIME WITH M:TIME
                                   STORE # TO M:REC1
                                   STORE CASE TO M:CASE
                                   STORE QTYINS TO M:QTYINS
                                   STORE QTYREC TO M:QTYREC
                                   STORE QTYSTK TO M:QTYSTK
                                   STORE DEFV TO M:DEFV
                                   STORE DEFR TO M:DEFR
                                   STORE ITEM TO M:ITEM
                                   STORE OVER TO M:OVER
                                   STORE OTF TO M:OTF
                                   STORE GOV TO M:GOV
                                   STORE TIME TO M:TIME
                                   STORE WHO TO M:WHO
                                   STORE DITEM TO M:DITEM
                                   STORE CCOST TO M:CCOST
                                   STORE WNTY TO M:WNTY
                                   STORE WUC TO M:WUC
                                   STORE DIS TO M:DIS
                                   STORE DETAILS TO M:DETAILS
                                   STORE REPLY TO M:REPLY
                                   STORE ACTTKN TO M:ACTTKN
                                   STORE COSTC TO M:COSTC
                                   STORE STATUSC TO M:STATUSC
                                   STORE CAUSEC TO M:CAUSEC
                                   STORE RETC TO M:RETC
                                   STORE ACTDISP TO M:ACTDISP
                                   STORE MFG TO M:MFG
                                   STORE LOT TO M:LOT
                                   STORE '0' TO M:TYPE

*****   UNLOCK DATA BASE FOR OTHER USERS

                                   USE D:FILESTAT
                                   REPL OPEN2 WITH '     '
                                   USE
                                   RELEASE ALL LIKE H:*
                                   RETURN
                                ENDIF
                             ENDIF
                          ENDIF
                      ELSE

*****   TYPE F CREATES NEW RECORDS

                          IF $(M:TYPE,2,1) = 'F'
                             USE D:FILESTAT

*****   CHECK TO SEE IF USER HAS WRITE ACCESS TO THE DATA
*****   BASE

                             IF OPEN2 = C:WHO
*                               @ 23,25 SAY '     UPDATING CASE';
                                        + ' FILE            '
                                USE D:OPEN2 INDEX D:OCASE2

*****   ADD THE NEW RECORD AND ENTER DATA

                                APPEND BLANK
REPL CASE WITH !(M:CASE),QTYINS WITH M:QTYINS,QTYREC WITH;
 M:QTYREC,QTYSTK WITH M:QTYSTK,DEFV WITH !(M:DEFV),DEFR ;
WITH !(M:DEFR),ITEM WITH !(M:ITEM),OVER WITH !(M:OVER),;
OTF WITH !(OTF),GOV WITH !(M:GOV),TIME WITH !(M:TIME)
REPL WHO WITH !(C:WHO),DITEM WITH !(M:DITEM),WNTY WITH ;
!(M:WNTY),WUC WITH !(M:WUC),DIS WITH !(M:DIS),DETAILS ;
WITH !(M:DETAILS),ACTDISP WITH !(M:ACTDISP),MFG WITH ;
!(M:MFG),LOT WITH !(M:LOT)
                                STORE '0' TO M:TYPE
```

```
***** UNLOCK DATA BASE FOR CTHERS
                           USE D:FILESTAT
                           REPL OPEN2 WITH '    '
                           USE
                           @ 23,25 SAY '                    ';
                                      + '              '
                           RELEASE ALL LIKE H:*
                           RETURN
                        ENDIF
                     ELSE

*****  IF TYPE G PERFCRM UNIOCK (NO UPDATE)

                        IF $(M:TYPE,2,1) = 'G'
                           USE D:FILESTAT
                           IF OPEN2 = C:WHO
                              USE D:OPEN2
                              GOTO M:REC1
                              IF TIME = M:TIME
                                 REPL TIME WITH '            '
                              ENDIF

*****  UNLOCK DATA BASE FOR OTHERS

                              USE D:FILESTAT
                              REPL OPEN2 WITH '    '
                              USE
                           ENDIF
                           RELEASE ALL LIKE H:*
                           RETURN
                        ENDIF
                     ENDIF
                  ENDIF
               ENDIF
            ENDDO
         ENDIF
      ENDIF

*****  TYPES 3 AND 4 DEAL WITH CLOSE1 AND CLOSE2
*****  THE METHODOLOGY USED FOR THESE TYPES IS THE SAME
*****  AS FOR THE OPEN1 AND OPEN2 DATA BASE FILES
*****  CNLY DIFFERENCES WILL BE NOTED BELOW SINCE THE
*****  EASIC COMMENTS ARE THE SAME AS ABOVE


***** TYPE 3 USES CLCSE1

   CASE $(M:TYPE,1,1) = '3'
      IF $(M:TYPE,2,1) = 'A' .OR. $(M:TYPE,2,1) = 'B'
         IF $(M:TYPE,2,1) = 'A'
            STORE 'USE D:CLOSE1 INDEX D:CNSN' TO H:USEFILE
         ELSE
            STORE 'USE D:CLOSE1 INDEX D:CCASE1' TO H:USEFILE
         ENDIF
         &H:USEFILE
         FIND &M:KEY
         IF # = 0
           STORE '9' TO M:TYPE
           RELEASE ALL LIKE H:*
           RETURN
         ELSE
           STORE # TC M:REC1
           STORE CASE TO M:CASE
           STORE COG TO M:COG
           STORE NSN TO M:NSN
           STORE CAT TO M:CAT
           STORE NOMEN TO M:NOMEN
```

```
            STORE UIC TO M:UIC
            STORE UI TC M:UI
            STORE QTYDEF TO M:QTYDEF
            STORE UPRC TO M:UPRC
            STORE EPRC TO M:EPRC
            STORE ORG TO M:ORG
            STORE DOC TO M:DOC
            STORE DOCNC TO M:DOCNO
            STORE DATES TO M:DATES
            STORE REPCCN TO M:REPCON
            STORE FSCM TO M:FSCM
            STORE TIME TO M:TIME
            STORE WHO TO M:WHO
            STORE NUM TO M:NUM
            STORE CR TC M:CR
            STORE SCR TO M:SCR
            STORE SM TC M:SM
            STORE O9Q TO M:O9Q
            STORE DEF TO M:DEF
            STORE VLC TO M:VIC
            STORE ACTPI TO M:ACTPT
            STORE SCRQTY TO M:SCRQTY
            STORE '0' TO M:TYPE
            RELEASE ALL LIKE H:*
            RETURN
         ENDIF
      ELSE
         IF $(M:TYPE,2,1) = 'H' .OR. $(M:TYPE,2,1) = 'I'
            USE D:CLCSE1
            GOTO M:REC1
            IF # <> M:REC1
               STORE '9' TO M:TYPE
               RELEASE ALL LIKE H:*
               RETURN
            ELSE
               IF $(M:TYPE,2,1) = 'I'
                  SKIP
               ENDIF
               STCRE # TO M:REC1
               STORE CASE TO M:CASE
               STORE CCG TO M:COG
               STORE NSN TO M:NSN
               STCRE CAT TO M:CAT
               STORE NCMEN TC M:NOMEN
               STCRE UIC TO M:UIC
               STORE UI TO M:UI
               STCRE CTYDEF TO M:QTYDEF
               STORE UPRC TO M:UPRC
               STCRE EPRC TO M:EPRC
               STORE CRG TO M:ORG
               STCRE DCC TO M:DOC
               STORE DCCNO TC M:DCCNO
               STORE DATES TO M:DATES
               STORE REPCON TO M:REPCON
               STORE FSCM TO M:FSCM
               STCRE TIME TO M:TIME
               STCRE WHO TO M:WHO
               STORE NUM TO M:NUM
               STORE CR TO M:CR
               STORE SCR TO M:SCR
               STCRE SM TO M:SM
               STORE C9Q TO M:O9Q
               STORE DEF TO M:DEF
               STORE VIC TO M:VIC
               STCRE ACTPT TO M:ACTPT
               STORE SCRQTY TO M:SCRQTY
               STORE '0' TO M:TYPE
               RELEASE ALL LIKE H:*
               RETURN
```

```
           ENDIF
        ELSE
           STORE T TC H:FAIL
           DO WHILE H:FAIL
              STORE 0 TO H:LOOPCNTR
              STORE 2 TO H:CNTR
              USE D:FILESTAT
              DO WHILE CLOSE1<>'     '
                 STORE H:CNTR-1 TO H:CNTR
                 IF H:CNTR=0
                    STORE 2 TO H:CNTR
                    STORE H:LOOPCNTR+1 TO H:LOOPCNTR
                 ENDIF
                 IF H:LOOPCNTR=2
                 @ 23,16 SAY 'CLOSE CASE FILE CURRENTLY IN';
                             + ' USE - PLEASE STANDBY'
                 ENDIF
                 USE
                 USE D:FILESTAT
                 STORE 1 TO H:DELAY
                 DO WHILE H:DELAY < 5
                   STCRE H:DELAY + 1 TO H:DELAY
                 ENDDO
              ENDDO
              @ 23,16 SAY '                                    ';
                         + '                  '
*             @ 23,16 SAY '                 FILE LOCKED  BY ';
                         + 'CLOSE1                '
              REPL CICSE1 WITH C:WHO
              USE
              IF $(M:TYPE,2,1) = 'C'
                 USE D:FILESTAT
                 IF CIOSE1 = C:WHO
                    STORE '               ' TO M:TIME
                    USE D:CLOSE1 INDEX D:CNSN, D:CCASE1
                    GCTO M:REC1
REPL CASE WITH !(M:CASE),COG WITH !(M:COG),NSN WITH ;
!(M:NSN),CAT WITH !(M:CAT),NOMEN WITH !(M:NOMEN),UIC WITH ;
!(M:UIC),UI WITH !(M:UI),QTYDEF WITH M:QTYDEF,UPRC WITH ;
M:UPRC,EPRC WITH M:EPRC,ORG WITH !(M:ORG),DOC WITH !(M:DOC)
REPL DOCNO WITH !(M:DCCNO),DATES WITH !(M:DATES),REPCON ;
WITH !(M:REPCON),FSCM WITH !(M:FSCM),TIME WITH !(M:TIME),;
WHO WITH !(M:WHO),NUM WITH !(M:NUM),CR WITH !(M:CR),SCR ;
WITH !(M:SCR),SM WITH !(M:SM),O9Q WITH !(M:O9Q)
REPL DEF WITH M:DEF,VLC WITH !(M:VLC),ACTPT WITH ;
!(M:ACTPT),SCRQTY WITH M:SCRQTY
                    STORE '0' TO M:TYPE
                    USE
                    USE D:FILESTAT
                    REPL CLOSE1 WITH '      '
                    USE
                    RELEASE ALL LIKE H:*
                    RETURN
                 ENDIF
              ELSE
                 IF $(M:TYPE,2,1)='D' .OR. $(M:TYPE,2,1)='E'
                    IF $(M:TYPE,2,1) = 'D'
                       STORE 'USE D:CLOSE1 INDEX D:CNSN, ';
                             + 'D:CCASE1' TO H:USEFILE
                    ELSE
                       STORE 'USE D:CLOSE1 INDEX D:CCASE1,';
                             + ' D:CNSN' TO H:USEFILE
                    ENDIF
                    USE D:FILESTAT
                    IF CLOSE1 = C:WHO
                       &H:USEFILE
                       FIND &M:KEY
                       IF # = 0
                          STORE '9' TO M:TYPE
```

```
      USE D:FILESTAT
      REPLACE CLOSE1 WITH '     '
      USE
      RELEASE ALL LIKE H:*
      RETURN
   ELSE
      IF  TIME <> '               '
         STORE '1' TO M:TYPE
         RELEASE ALL LIKE H:*
         USE D:FILESTAT
         REPLACE CLOSE1 WITH '     '
         USE
         RETURN
      ELSE
         STORE   TO H:DUMMY
         POKE 61440, 180, 44, 205, 33,;
            137, 22, 13, 240, 137, 14,;
            15, 240, 195
         SET CALL TO 61440
         CALL H:DUMMY
         STORE STR(PEEK(61456),2) TC ;
               H:HOUR
         STORE STR(PEEK(61455),2) TC ;
               H:MIN
         STORE STR(PEEK(61454),2) TC ;
               H:SEC
         IF $(H:HOUR,1,1)=
            STORE 0 +$(H:HOUR,2,1) ;
                 TO H:HOUR
         ENDIF
         IF $(H:MIN,1,1)=
            STORE 0+$(H:MIN,2,1) TO ;
               H:MIN
         ENDIF
         IF $(H:SEC,1,1)=
            STORE 0+$(H:SEC,2,1) TO ;
               H:SEC
         ENDIF
         STORE C:JULIAN+H:HOUR +H:MIN+;
               H:SEC TO M:TIME
         REPL TIME WITH M:TIME
         STORE # TO M:REC1
         STORE CASE TO M:CASE
         STORE COG TO M:COG
         STORE NSN TO M:NSN
         STORE CAT TO M:CAT
         STORE NOMEN TO M:NOMEN
         STORE UIC TO M:UIC
         STORE UI TO M:UI
         STORE QTYDEF TO M:QTYDEF
         STORE UPRC TO M:UPRC
         STORE EPRC TO M:EPRC
         STORE ORG TO M:ORG
         STORE DOC TO M:DOC
         STORE DOCNO TO M:DOCNO
         STORE DATES TO M:DATES
         STORE REPCON TO M:REPCON
         STORE FSCM TO M:FSCM
         STORE TIME TO M:TIME
         STORE WHO TO M:WHO
         STORE NUM TO M:NUM
         STORE CR TO M:CR
         STORE SCR TO M:SCR
         STORE SM TO M:SM
         STORE 09Q TO M:09Q
         STORE DEF TO M:DEF
         STORE VLC TO M:VLC
         STORE ACTPT TO M:ACTPT
         STORE SCRQTY TO M:SCRQTY
```

```
                    STORE '0' TO M:TYPE
                    USE D:FILESTAT
                    REPL CLOSE1 WITH '       '
                    USE
                    RELEASE ALL LIKE H:*
                    RETURN
                 ENDIF
              ENDIF
           ENDIF
        ELSE

*****   FOR TYPE F, A NEW RECORD IS CREATED BY TRANSFERRING
*****   DATA FROM THE OPEN FILE TO THE CLOSE FILE

           IF $(M:TYPE,2,1) = 'F'
              USE D:FILESTAT
              IF CLOSE1 = C:WHO
                 @ 23,25 SAY '      UPDATING CASE';
                         + ' FILE         '
                 USE D:CLOSE1 INDEX D:CCASE1, ;
                    D:CNSN
                 APPEND BLANK

REPL CASE WITH !(M:CASE),COG WITH !(M:COG),NSN WITH ;
!(M:NSN),CAT WITH !(M:CAT),NOMEN WITH !(M:NOMEN),UIC WITH;
 !(M:UIC),UI WITH !(M:UI),QTYDEF WITH M:QTYDEF,UPRC WITH ;
M:UPRC,EPRC WITH M:EPRC,ORG WITH !(M:ORG),DOC WITH !(M:DOC)
REPL DOCNO WITH !(M:DCCNO),DATES WITH !(M:DATES),REPCON ;
WITH !(M:REPCON),FSCM WITH !(M:FSCM),TIME WITH !(M:TIME),;
WHO WITH !(C:WHO),NUM WITH !(M:NUM),SM WITH !(M:SM),O9Q ;
WITH !(M:O9Q),DEF WITH M:DEF,ACTPT WITH !(M:ACTPT)

                 STORE '0' TO M:TYPE
                 USE D:FILESTAT
                 REPL CLOSE1 WITH '       '
                 USE
                 @ 23,25 SAY '                          ';
                         + '          '
                 RELEASE ALL LIKE H:*
                 RETURN
              ENDIF
           ELSE
              IF $(M:TYPE,2,1) = 'G'
                 USE D:FILESTAT
                 IF CLOSE1 = C:WHO
                    USE D:CLOSE1
                    GOTO M:REC1
                    IF TIME = M:TIME
                       REPL TIME WITH '                '
                    ENDIF
                    USE D:FILESTAT
                    REPL CLOSE1 WITH '       '
                    USE
                 ENDIF
                 RELEASE ALL LIKE H:*
                 RETURN
              ENDIF
           ENDIF
        ENDIF
     ENDIF
   ENDDO
  ENDIF
 ENDIF

*****   TYPE 4 USES CLCSE2 DATA BASE FILE

   CASE $(M:TYPE,1,1) = '4'
      IF $(M:TYPE,2,1) = 'A' .OR. $(M:TYPE,2,1) = 'B'
         USE D:CLOSE2 INDEX D:CCASE2
```

```
    FIND &M:KEY
    IF # = 0
       STORE '9' TO M:TYPE
       RELEASE ALL LIKE H:*
       RETURN
    ELSE
       STORE # TO M:REC1
       STORE CASE TO M:CASE
       STORE QTYINS TO M:QTYINS
       STORE QTYREC TO M:QTYREC
       STORE QTYSTK TO M:QTYSTK
       STORE DEFV TO M:DEFV
       STORE DEFR TO M:DEFR
       STORE ITEM TO M:ITEM
       STORE OVER TO M:OVER
       STORE OTF TO M:OTF
       STORE GOV TO M:GOV
       STORE TIME TO M:TIME
       STORE WHO TO M:WHO
       STORE DITEM TO M:DITEM
       STORE CCOST TO M:CCOST
       STORE WNTY TO M:WNTY
       STORE WUC TO M:WUC
       STORE DIS TO M:DIS
       STORE DETAILS TO M:DETAILS
       STORE REPLY TO M:REPLY
       STORE ACTTKN TO M:ACTTKN
       STORE COSTC TO M:COSTC
       STORE STATUSC TO M:STATUSC
       STORE CAUSEC TO M:CAUSEC
       STORE RETC TO M:RETC
       STORE ACTDISP TO M:ACTDISP
       STORE MFG TO M:MFG
       STORE LOT TO M:LOT
       STORE '0' TO M:TYPE
       RELEASE ALL LIKE H:*
       RETURN
   ENDIF
ELSE
   IF $(M:TYPE,2,1) = 'H' .OR. $(M:TYPE,2,1) = 'I'
        USE D:CLCSE2
        GOTO M:REC1
        IF # <> M:REC1
           STORE '9' TO M:TYPE
           RELEASE ALL LIKE H:*
           RETURN
        ELSE
           IF $(M:TYPE,2,1) = 'I'
              SKIP
           ENDIF
           STORE # TO M:REC1
           STORE CASE TO M:CASE
           STORE QTYINS TO M:QTYINS
           STORE QTYREC TO M:QTYREC
           STORE QTYSTK TO M:QTYSTK
           STORE DEFV TO M:DEFV
           STORE DEFR TO M:DEFR
           STORE ITEM TO M:ITEM
           STORE OVER TO M:OVER
           STORE OTF TO M:OTF
           STORE GOV TO M:GOV
           STORE TIME TO M:TIME
           STORE WHO TO M:WHO
           STORE DITEM TO M:DITEM
           STORE CCOST TO M:CCOST
           STORE WNTY TO M:WNTY
           STORE WUC TO M:WUC
           STORE DIS TO M:DIS
           STORE DETAILS TO M:DETAILS
```

```
                STORE REPLY TO M:REPLY
                STORE ACTTKN TO M:ACTTKN
                STORE COSTC TO M:COSTC
                STORE STATUSC TO M:STATUSC
                STORE CAUSEC TO M:CAUSEC
                STORE RETC TO M:RETC
                STORE ACTDISP TO M:ACTDISP
                STORE MFG TO M:MFG
                STORE LOT TO M:LOT
                STORE '0' TO M:TYPE
                RELEASE ALL LIKE H:*
                RETURN
             ENDIF
          ELSE
             STORE T TO H:FAIL
             DO WHILE H:FAIL
                STORE 0 TO H:LOOPCNTR
                STORE 2 TO H:CNTR
                USE D:FILESTAT
                DO WHILE CLOSE2<>'     '
                   STORE H:CNTR-1 TO H:CNTR
                   IF H:CNTR=0
                      STORE 2 TO H:CNTR
                      STORE H:LOOPCNTR+1 TO H:LOOPCNTR
                   ENDIF
                   IF H:LOOPCNTR=2
                   @ 23,16 SAY 'CLOSE CASE FILE CURRENTLY IN USE ';
                      + '- PLEASE STANDBY'
                   ENDIF
                   USE
                   USE D:FILESTAT
                   STORE 1 TO H:DELAY
                   DO WHILE H:DELAY < 5
                     STORE H:DELAY + 1 TO H:DELAY
                   ENDDO
                ENDDO
                @ 23,16 SAY '
                REPL CLOSE2 WITH C:WHO
                USE
                IF $(M:TYPE,2,1) = 'C'
                   USE D:FILESTAT
                   IF CLOSE2 = C:WHO
                      STORE '                ' TO M:TIME
                      USE D:CLOSE2 INDEX D:CCASE2
                      GOTO M:REC1
REPL CASE WITH !(M:CASE),QTYINS WITH M:QTYINS,QTYREC ;
WITH M:QTYREC,QTYSTK WITH M:QTYSTK,DEFV WITH !(M:DEFV),;
DEFR WITH !(M:DEFR),ITEM WITH !(M:ITEM),OVER WITH ;
!(M:OVER),OTF WITH !(OTF),GOV WITH !(M:GOV),TIME WITH ;
!(M:TIME)
REPL WHO WITH !(M:WHO),DITEM WITH !(M:DITEM),CCOST WITH ;
M:CCOST,WNTY WITH !(M:WNTY),WUC WITH !(M:WUC),DIS WITH ;
!(M:DIS),DETAILS WITH !(M:DETAILS), REPLY WITH !(M:REPLY),;
ACTTKN WITH !(M:ACTTKN),COSTC WITH !(M:COSTC)
REPL STATUSC WITH !(M:STATUSC),CAUSEC WITH !(M:CAUSEC),;
RETC WITH !(M:RETC),ACTDISP WITH !(M:ACTDISP),MFG WITH ;
!(M:MFG),LOT WITH !(M:LOT)
                      STORE '0' TO M:TYPE
                      USE
                      USE D:FILESTAT
                      REPL CLOSE2 WITH '     '
                      USE
                      RELEASE ALL LIKE H:*
                      RETURN
                   ENDIF
                ELSE
                   IF $(M:TYPE,2,1) = 'D' .OR. $(M:TYPE,2,1) = 'E'
                      USE D:FILESTAT
                      IF CLOSE2 = C:WHO
```

```
USE D:CLOSE2 INDEX D:CCASE2
FIND &M:KEY
IF # = 0
   STORE '9' TO M:TYPE
   USE D:FILESTAT
   REPLACE CLOSE2 WITH '      '
   USE
   RELEASE ALL LIKE H:*
   RETURN
ELSE
   IF  TIME <> '              '
      STORE '1' TO M:TYPE
      RELEASE ALL LIKE H:*
      USE D:FILESTAT
      REPLACE CLOSE2 WITH '     '
      USE
      RETURN
   ELSE
      STORE   TO H:DUMMY
      POKE 61440, 180, 44, 205, 33, 137, :
        22, 13, 240, 137, 14, 15, 240, 195
      SET CALL TO 61440
      CALL H:DUMMY
      STORE STR(PEEK(61456),2) TO H:HOUR
      STORE STR(PEEK(61455),2) TO H:MIN
      STORE STR(PEEK(61454),2) TO H:SEC
      IF $(H:HOUR,1,1)=
         STORE 0 +$(H:HOUR,2,1) TO H:HOUR
      ENDIF
      IF $(H:MIN,1,1)=
         STORE 0+$(H:MIN,2,1) TO H:MIN
      ENDIF
      IF $(H:SEC,1,1)=
         STORE 0+$(H:SEC,2,1) TO H:SEC
      ENDIF
      STORE C:JULIAN+H:HOUR+H:MIN+H:SEC;
         TO M:TIME
      REPL TIME WITH M:TIME
      STORE # TO M:REC1
      STORE CASE TO M:CASE
      STORE QTYINS TO M:QTYINS
      STORE QTYREC TO M:QTYREC
      STORE QTYSTK TO M:QTYSTK
      STORE DEFV TO M:DEFV
      STORE DEFR TO M:DEFR
      STORE ITEM TO M:ITEM
      STORE OVER TO M:OVER
      STORE OTF TO M:OTF
      STORE GOV TO M:GOV
      STORE TIME TO M:TIME
      STORE WHO TO M:WHO
      STORE DITEM TO M:DITEM
      STORE CCOST TO M:CCOST
      STORE WNTY TO M:WNTY
      STORE WUC TO M:WUC
      STORE DIS TO M:DIS
      STORE DETAILS TO M:DETAILS
      STORE REPLY TO M:REPLY
      STORE ACTTKN TO M:ACTTKN
      STORE COSTC TO M:COSTC
      STORE STATUSC TO M:STATUSC
      STORE CAUSEC TO M:CAUSEC
      STORE RETC TO M:RETC
      STORE ACTDISP TO M:ACTDISP
      STORE MFG TO M:MFG
      STORE LOT TO M:LOT
      STORE '0' TO M:TYPE
      USE D:FILESTAT
      REPL CLOSE2 WITH '     '
```

```
                             USE
                             RELEASE ALL LIKE H:*
                             RETURN
                          ENDIF
                       ENDIF
                    ENDIF
                 ELSE

*****  FOR TYPE F, A NEW RECORD IS CREATED BY TRANSFERRING
*****  DATA FROM THE OPEN FILE TO THE CLOSE FILE

                    IF $(M:TYPE,2,1) = 'F'
                       USE D:FILESTAT
                       IF CLOSE2 = C:WHO
                          USE D:OPEN2 INDEX D:OCASE2
                          FIND &M:CASE
                          IF # <> 0
                                      + ' FILE         '
                             USE D:CLOSE2 INDEX D:CCASE2
                             APPEND BLANK

REPL CASE WITH !(M:CASE),QTYINS WITH M:QTYINS,QTYREC WITH;
 M:QTYREC,QTYSTK WITH M:QTYSTK,DEFV WITH !(M:DEFV),DEFR ;
WITH !(M:DEFR),ITEM WITH !(M:ITEM),OVER WITH !(M:OVER),;
OTF WITH !(OTF),GOV WITH !(M:GOV),TIME WITH !(M:TIME)
REPL WHO WITH !(C:WHC),DITEM WITH !(M:DITEM),WNTY WITH ;
!(M:WNTY),WUC WITH !(M:WUC),DIS WITH !(M:DIS),DETAILS ;
WITH !(M:DETAILS),ACTDISP WITH !(M:ACTDISP),MFG WITH ;
!(M:MFG),LOT WITH !(M:LOT)

                             STORE '0' TO M:TYPE
                             USE D:FILESTAT
                             REPL CLOSE2 WITH '     '
                             USE
                             @ 23,25 SAY '                    ';
                                     + '         '
                             RELEASE ALL LIKE H:*
                             RETURN
                          ENDIF
                       ENDIF
                    ELSE
                       IF $(M:TYPE,2,1) = 'G'
                          USE D:FILESTAT
                          IF CLOSE2 = C:WHO
                             USE D:CLOSE2
                             GOTO M:REC1
                             IF TIME = M:TIME
                                REPL TIME WITH '           '
                             ENDIF
                             USE D:FILESTAT
                             REPL CLOSE2 WITH '    '
                             USE
                          ENDIF
                          RELEASE ALL LIKE H:*
                          RETURN
                       ENDIF
                    ENDIF
                 ENDIF
              ENDIF
           ENDDO
        ENDIF
      ENDIF
ENDCASE
RETURN

***** END OF PROGRAM
```

VIII. SUPERVISOR MENU

```
*********************************************************
**                                                     **
**   DATE: 11 JANUARY 1984                             **
**   VERSION: 1.0                                      **
**   MODULE NAME: SUPMENU1                             **
**   MODULE PURPOSE: PROVIDE MENU FOR SUPERVISOR TO    **
**          ACCESS QDR SYSTEM PROGRAMS                 **
**                                                     **
**   MODULE INTERFACE DEFINITION                       **
**      INPUTS: C:WHO. C:JULIAN                        **
**      OUTPUTS: NONE                                  **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:          **
**                                                     **
**          THE SUPERVISOR IS PRESENTED WITH A MENU OF **
**          ALL PROSESSING CAPABILITIES AVAILABLE. AFTER **
**          ONE IS CHOSEN, THE MODULE THEN CALLS THE   **
**          DESIGNATED PROGRAM INTO ACTION OR LOGS THE **
**          SUPERVISOR OUT OF THE QDR SYSTEM           **
**                                                     **
**   SUPERORDINATE MODULES: LOGON                      **
**   SUBORDINATE MODULES: MENU1,C-REASGN,UTILMENU,SUPRPTS,**
**                        SUPRPT2                      **
**   AUTHOR: J.G. BOYNTON                              **
**                                                     **
*********************************************************
ERASE
STORE T TO V:CONTINUE
DO WHILE V:CONTINUE
STORE ' ' TO V:CHOICE
TEXT


                    WELCOME TO THE QDR SUPERVISOR MENU


                     1 - MAIN MENU PROCESSING
                     2 - CASE REASSIGNMENT
                     3 - ANALYST WORKLOAD STATISTICS
                     4 - UTILITY PROGRAMS
                     5 - REPORT GENERATION
                     6 - YEAR END PROCESSING
                     7 - SORTED LISTINGS
                     8 - EXIT FROM THE SYSTEM


                     ENTER YOUR CHOICE

ENDTEXT
@ 21,30 GET V:CHOICE
READ
?
IF   V:CHOICE >= 1 .AND. V:CHOICE <= 8

?
     DO CASE
        CASE V:CHOICE= 1
             RELEASE ALL LIKE V:*
             DO C:MENU1.PRG
```

```
        CASE V:CHOICE= 2
             RELEASE ALL LIKE V:*
             DO C:C-REASGN.PRG
        CASE V:CHOICE= 3
             RELEASE ALL LIKE V:*
             DO C:STATGEN.PRG
        CASE V:CHOICE= 4
             RELEASE ALL LIKE V:*
             DO C:UTILMENU.PRG
        CASE V:CHOICE= 5
             RELEASE ALL LIKE V:*
             DO C:SUPRPTS.PRG
        CASE V:CHOICE= 6
             RELEASE ALL LIKE V:*
             DO C:YEAREND.PRG
        CASE V:CHOICE=7
             RELEASE ALL LIKE V:*
             DO C:SUPRPT2.PRG
        CASE V:CHOICE= 8
             RELEASE ALL EXCEPT C:*
             ERASE
             RETURN
     ENDCASE
     ERASE
     STORE T TO V:CONTINUE
     STORE ' ' TO V:CHOICE
ELSE
  ?' < PLEASE ANSWER WITH  1 - 8 ONLY >'

ENDIF <V:CHOICE>

ENDDO <V:CONTINUE>

***** END OF PROGRAM
```

IX. SUPERVISOR UTILITY MENU

```
*****************************************************************
**                                                             **
**   Date: 16 January 1984                                     **
**   Version: 1.0                                              **
**   Module Name: UTILMENU                                     **
**   Module Purpose: Provide Supervisor with menu of           **
**                   utility programs available to him.        **
**                                                             **
**   Module Interface Definition                               **
**      Inputs: C:WHO, C:JULIAN                                **
**      Outputs: None                                          **
**   Module Processing Narrative Description:                  **
**                                                             **
**        Displays menu of all utility programs avail-         **
**        able to the supervisor. Calls the appropriate        **
**        program after user selection. Additional level      **
**        of security required for packing Data Base.          **
**                                                             **
**   Superordinate Modules: SUPMENU1                           **
**   Subordinate Modules:  ANALYST,PASS,COGUPDT,ADDRUPDT,      **
**                         STATGEN,COGCNT,UTILNDX,DBPACK       **
**   Author: J.G. BOYNTON & R.G. NICHOLS                       **
**                                                             **
*****************************************************************

STORE T TO U:CONTINUE

*****  Display Options Available To The Operator

DO WHILE U:CONTINUE
   ERASE
   @ 6,25 SAY '***** Utility Processing *****'
   @ 9,29 SAY '1 - Analyst Update'
   @ $+1,29 SAY '2 - Password Processing'
   @ $+1,29 SAY '3 - COG Update'
   @ $+1,29 SAY '4 - Address File Update'
   @ $+1,29 SAY '5 - Internal Statistics Update'
   @ $+1,29 SAY '6 - Cog Count'
   @ $+1,29 SAY '7 - Re-Index Index Files For The System'
   @ $+1,29 SAY '8 - Clean Up The Database (Pack)'
   @ $+1,29 SAY '9 - Exit To Supervisor Menu'
   STORE ' 'TO U:REPLY
   @ 19,40 GET U:REPLY PICTURE '9'
   READ

*****  Accept Menu Selection

   DO WHILE U:REPLY < '1' .OR. U:REPLY > '9'
      @ 23,32 SAY 'Enter 1 - 9 Only' + CHR(7)
      @ 19,40 GET U:REPLY PICTURE '9'
      READ
   ENDDO

*****  Call Routine Necessary To Perform Desired Function

   DO CASE
      CASE U:REPLY = '9'
```

```
      RELEASE ALL LIKE U:*
      RETURN
   CASE U:REPLY = '1'
      DO C:ANALYST
   CASE U:REPLY = '2'
      DO C:PASS
   CASE U:REPLY = '3'
      DO C:COGUPDT
   CASE U:REPLY = '4'
      DO C:ADDRUPDT
   CASE U:REPLY = '5'
      DO C:STATGEN
   CASE U:REPLY = '6'
      DO C:COGCNT
   CASE U:REPLY = '7'

*****  Display Warning To The Operator

      ERASE
      @  1,25 SAY '***** Data Base Reindex *****'
      @  3,24 SAY '* * * * * * * * * * * * * * * * *'
      @  4,24 SAY '*                               *'
      @  5,24 SAY '*            WARNING            *'
      @  6,24 SAY '*                               *'
      @  7,24 SAY '*  This Program Will Delete     *'
      @  8,24 SAY '*  All Index Files and Then     *'
      @  9,24 SAY '*  Will Re-Index All Files      *'
      @ 10,24 SAY '*                               *'
      @ 11,24 SAY '*  If Existing Files Are        *'
      @ 12,24 SAY '*  Large, This Could Take       *'
      @ 13,24 SAY '*          Hours                *'
      @ 14,24 SAY '*                               *'
      @ 15,24 SAY '* * * * * * * * * * * * * * * * *'
      @ 17,24 SAY '    Are You SURE You Want To'
      @ 18,24 SAY '          Continue'
      @ 19,24 SAY '       <Enter Y or N>' + CHR(7)
      STORE ' ' TO U:REPLY2
      @ 21,40 GET U:REPLY2
      READ

*****  Accept Response From User

      DO WHILE !(U:REPLY2)<>'Y' .AND. !(U:REPLY2)<>'N'
         @ 23,32 SAY 'Enter Y or N Only' + CHR(7)
         @ 21,40 GET U:REPLY2 PICTURE 'A'
         READ
      ENDDO
      @ 23,32 SAY '                   '
      @ 17,40 SAY ' '

***** Accept and Verify Password Before Executing Request

      IF U:REPLY2 = 'Y'
         @ 21,30 SAY 'Enter Your Password '
         STORE '          ' TO U:PASSWORD
         SET CONSOLE OFF
         ACCEPT TO U:PASSWORD
         SET CONSOLE ON
         IF U:PASSWORD <> '          '
            USE D:TECHCODE INDEX D:TECH
            FIND &C:WHO
            IF PSWD = U:PASSWORD .AND. # <> 0
               DO C:UTILNDX
            ELSE
               @ 23,18 SAY 'Request ABORTED - Strike ';
                      +'Any Key To Continue'
```

[illegible]

```
                WAIT
             ENDIF
          ENDIF
       ENDIF
    CASE U:REPLY = '8'
       DO C:DBPACK
  ENDCASE
ENDDO

***** END OF PROGRAM
```

X. USER REPORT MENU

```
*****************************************************************
**                                                             **
**   Date: 11 January 1984                                     **
**   Version: 1.0                                              **
**   Module Name: RPTMENU                                      **
**   Module Purpose: Allow analyst to receive a listing        **
**                   of his current open cases.                **
**   Module Interface Definition                               **
**      Inputs: C:WHO, C:JULIAN                                **
**      Outputs: None                                          **
**   Module Processing Narrative Description:                  **
**                                                             **
**          Menu is provided in order to select a listing      **
**          of open cases that belong to the Analyst           **
**          making the request. If report listing is           **
**          chosen, then module OCASERPT is called. Exit       **
**          is to return to MENU1.                             **
**   Superordinate Modules: MENU1                              **
**   Subordinate Modules: OCASERPT                             **
**   Author: J.G. BOYNTON                                      **
**                                                             **
*****************************************************************
STORE T TO C:TRUE
DO WHILE C:TRUE
ERASE
*
STORE ' ' TO V:CHOICE
TEXT

                        *****  QUERY REPORT AVAILABLE  *****


                               1 - Openfile by Case
                               2 - Exit






                                Enter Your Choice

ENDTEXT
@ 19,38 GET V:CHOICE
READ
*
IF V:CHOICE >= '1' .AND. V:CHOICE <= '2'
*
    DO CASE
       CASE V:CHOICE = '1'
            DO C:OCASERPT
       CASE V:CHOICE = '2'
            STORE F TO C:TRUE
    ENDCASE

ELSE
  ?  '               < Please Answer With a 1 - 2 ONLY >'
  ?
```

```
  ? '                          PRESS ANY KEY TO CONTINUE'
  ?
                                      WAIT
ENDIF <V:CHOICE>
ENDDO <C:TRUE>
RELEASE ALL LIKE V:*
RELEASE C:TRUE

***** END OF PROGRAM
```

XI. SUPERVISOR REPORT MENU

```
****************************************************************
**                                                            **
**  Date: 15 January 1984                                     **
**  Version: 1.0                                              **
**  Module Name: SUPRPTS                                      **
**  Module Purpose: Provide Supervisor a menu of              **
**                  available reports.                        **
**                                                            **
**  Module Interface Definition                               **
**     Inputs: C:WHO, C:JULIAN                                **
**     Outputs: None                                          **
**  Module Processing Narrative Description:                  **
**                                                            **
**      Displays a menu of available reports and prompts      **
**      Supervisor to chose one or return to SUPMENU1.        **
**      Weekly and Monthly reports are directed to the        **
**      printer. Category1 and Extended value reports         **
**      are created in text files on D: drive and may be      **
**      printed by 'typing' the file using standard           **
**      operating system functions. All reports should        **
**      be run only during 'off' hours due to their           **
**      large amount of resource utilization.                 **
**                                                            **
**  Superordinate Modules: SUPMENU1                           **
**  Subordinate Modules: XXBWSTAT,XXMNSTAT,CATIRPT,EXTVAL**
**  Author: J.G. BOYNTON                                      **
**                                                            **
****************************************************************

ERASE
STORE T TO V:CONTINUE
DO WHILE V:CONTINUE
SET TALK OFF
STORE ' ' TO V:CHOICE
TEXT


                    WELCOME TO THE QDR SPECIAL REPORT MENU


                        1 - Biweekly Statistics Report
                        2 - Monthly Statistics Report
                        3 - Category I Report
                        4 - Extended Value Report
                        5 - Exit to Supervisor Menu


                             Enter your choice

ENDTEXT
@ 19,35 GET V:CHOICE
READ
?
IF    V:CHOICE >= "1" .AND. V:CHOICE <= "5"

   IF V:CHOICE = "1" .OR. V:CHOICE = "2"
      ERASE
      @  3,15 SAY '** YOUR PRINTER MUST BE TURNED ON AND';
                 +'AVAILABLE **'
```

```
    @ 12,20 SAY '         PRESS ANY KEY TO START'
    WAIT
    @ 22,10 SAY '                                   '
  ENDIF
?
   DO CASE
      CASE V:CHOICE= "1"
           RELEASE ALL LIKE V:*
           DO C:XXEISTAT.PRG
      CASE V:CHOICE= "2"
           RELEASE ALL LIKE V:*
           DO C:XXMNSTAT.PRG
      CASE V:CHOICE= "3"
           RELEASE ALL LIKE V:*
           USE D:CPEN1 INDEX D:OCASE1
           SET TALK OFF
           STORE 0 TO P:COUNT
           STORE 0 TO P:TOTAL
           SET FORMAT TO SCREEN
           ERASE
           SET ALTERNATE TO D:CATIRPT
           SET ALTERNATE ON
           ?      'Date:  ',DATE()
           ?
           ?      '                     *****       QDR';
           +' CATEGORY I REPORT        *****        '
           ?
           ?      '      CASE #          EXTENDED PRICE';
           +'          OPEN DATE         COG  '
           ?
           STORE 0 TO P:PAGE
           STORE 5 TO ROW
           DO WHILE  .NOT. EOF
               STORE P:TOTAL+1 TO P:TOTAL
               IF CAT='1'
                    ? '      ',CASE,'     ',EPRC,;
                    '          ',$(DATES,11,5),;
                    '          ',COG
                    STORE ROW+1 TO ROW
                    SKIP
                    STORE P:COUNT+1 TO P:COUNT
                    IF ROW > 60
                        ERASE
                        ? CHR(12)
                        STORE 0 TO ROW
                        STORE P:PAGE+1 TO P:PAGE
                        ?
                        ?
                        ? '      PAGE  ',P:PAGE
                        ?
                        ?      '      CASE #          EXT';
                        +'ENDED PRICE          OPEN DATE';
                        +'          COG  '
                        ?
                        STORE ROW+4 TO ROW
                    ENDIF <PAGE IS FULL>
               ELSE
                  SKIP
               ENDIF <NOT CAT I>
           ENDDO
           ?
           ?
           ?
           ?
           ?   '      CAT  1 CASES:',P:COUNT
           ?   '      TOTAL CASES:',P:TOTAL
           ?
           ?
           ?   '                 *****      END OF CAT';
```

```
          +'EGORY I REPORT      *****'
          ? CHR(12)
          SET ALTERNATE OFF
          SET ALTERNATE TO
          ? CHR(7)
          ? CHR(7)
          ERASE
          @ 12,20 SAY ' You May Receive Your Cat I ';
                     +'  Report On '
          @ 13,20 SAY '          D:CATIRPT.TXT   '
          @ 20,20 SAY '     Press Any Key To Continue'
          WAIT

     CASE V:CHOICE= "4"
          RELEASE ALL LIKE V:*
          USE D:OPEN1 INDEX D:EXTVAL
          REINDEX
          GOTO TOP
          SKIP
          SET TALK OFF
          STORE 0 TO P:COUNT
          STORE 0 TO P:TOTAL
          SET FORMAT TO SCREEN
          ERASE
          SET ALTERNATE TO D:EXTVALUE
          SET ALTERNATE ON
          ?      'Date: ',DATE()
          ?
          ?      '                    *****        QDR';
          +' EXTENDED VALUE REPORT       *****          '
          ?
          ?      '                                            ';
          +'                                              ';
          +'                      SCREENING'
          ?      '    CASE #   COG    SM                ';
          +'NSN            CAT       NOMEN         UIC    ';
          +'EXT PRICE    OPEN DATE    CODE/DATE'
          ?
          STORE 0 TO P:PAGE
          STORE 6 TO ROW
          DO WHILE  .NOT. EOF
                  STORE P:TOTAL+1 TO P:TOTAL
                  ? '    ',CASE ,' ',COG,' ',SM,' ',;
                  $(NSN,1,4),'-',$(NSN,5,2),'-',;
                  $(NSN,7,7),'    ',CAT,' ',;
                  $(NOMEN,1,10),' ',UIC,' ',EPRC,;
                  '    ',$(DATES,11,5),'    ',SCR,'/',;
                  $(DATES,21,5)
                  STORE ROW+1 TO ROW
                  STORE P:COUNT+1 TO P:COUNT
                  IF ROW > 60
                      ERASE
                      ? CHR(12)
                      STORE 0 TO ROW
                      STORE P:PAGE+1 TO P:PAGE
                      ?
                      ?
                      ? '       PAGE   ',P:PAGE
                      ?
                      ?    '                              ';
                      +'                              ';
                      +'                              ';
                      +'          SCREENING'
                      ?    '    CASE #    COG     SM     ';
                      +'   NSN              CAT        NOMEN';
                      +'      UIC     EXT PRICE      OPEN';
                      +'DATE  CODE/DATE'
                      ?
                      STORE ROW+4 TO ROW
```

```
                          ENDIF <PAGE IS FULL>
                          SKIP
                 ENDDO
                 ?
                 ?
                 ?
                 ?
                 ?   '     TOTAL CASES:',P:TOTAL
                 ?
                 ?
                 ?   '                  *****     END OF ';
                 +'EXTENDED VALUE REPORT    *****'
                 ? CHR(12)
                 SET ALTERNATE OFF
                 SET ALTERNATE TO
                 ? CHR(7)
                 ? CHR(7)
                 ERASE
                 @ 12,20 SAY ' You May Receive Your Extended';
                          +'  Value Report On '
                 @ 13,20 SAY '             D:EXTVALUE.TXT  '
                 @ 20,20 SAY '        Press Any Key To Continue'
                 WAIT
            CASE V:CHOICE= "5"
                 ERASE
                 RETURN
        ENDCASE
        ERASE

        STORE T TO V:CONTINUE
        STORE ' ' TO V:CHOICE
ELSE
  ?' < Please Answer With  1 - 5 ONLY >'

ENDIF <V:CHCICE>

ENDDO <V:CONTINUE>

***** END OF PROGRAM
```

XII. QUERY MODULE

```
******************************************************************
**                                                              **
**   Date: 23 Nov 1983                                          **
**   Version: 1.0                                               **
**   Module Name: QUERY                                         **
**   Module Purpose: Free Format Query Against the OPEN         **
**                   and CLOSED Data Files                      **
**                                                              **
**   Module Interface Definition                                **
**      Inputs: C:WHO, C:JULIAN                                 **
**      Outputs: None                                           **
**                                                              **
**   Module Processing Narrative Description:                   **
**                                                              **
**         Accepts Selection and Display Parameters from        **
**         the user and generates the necessary Data Base       **
**         Commands to extract the desired information.         **
**         Temporary files are created as the QUERY is          **
**         being processed.  These files are deleted upon       **
**         exiting.  The user may either print or display       **
**         the information extracted.                           **
**                                                              **
**   Superordinate Modules: MENU1                               **
**   Subordinate Modules: None                                  **
**   Author: R. G. NICHOLS                                      **
**                                                              **
******************************************************************

*****  Display Menu Selection Options and Accept Response

*SET COLOR TO 112, 6
STORE ' ' TO Q:REPLY
ERASE
@ 6,26 SAY '***** Query Processing *****'
@ 10,27 SAY 'THIS PROGRAM ALLOWS YOU TO'
@ 12,28 SAY 'QUERY THE QDR  DATA BASE'
@ 15,32 SAY '1 - Continue'
@ 17,32 SAY '2 - Return to Menu'
@ 20,40 SAY ' ' GET Q:REPLY
READ
DO WHILE Q:REPLY <> '1' .AND. Q:REPLY <> '2'
   @ 23,20 SAY 'Enter 1 or 2 for Your Response'+chr(7)
   @ 20,40 SAY ' ' GET Q:REPLY
   READ
ENDDO

*****  If Response is to Exit Release all Memory Variables
*****  and Return to MENU1

IF Q:REPLY = '2'
   RELEASE ALL LIKE Q:*
   RETURN
ENDIF

*****  Allow User to Select Files to Run The Query Against

STORE ' ' TO Q:REPLY
ERASE
@ 6,24 SAY ' ***  Query Processing Module ***'
@ 10,20 SAY 'Select File(s) to be Used for this Query'
@ 12,25 SAY '1 - OPEN FILE'
```

```
@ 14,25 SAY '2 - CLOSED FILE'
@ 16,25 SAY '3 - Merged OPEN and CLOSED File'
@ 20,40 GET Q:REPLY PICTURE '9'
READ
DO WHILE Q:REPLY<>'1' .AND. Q:REPLY<>'2' .AND.Q:REPLY<>'3'
   @ 23,28 SAY 'Entry MUST Be 1, 2, or 3' + CHR(7)
   @ 20,40 GET Q:REPLY PICTURE '9'
   READ
ENDDO

@ 23,28 SAY '                              '
STORE 10 TO Q:CNTR
STORE 'Q:L' + STR(Q:CNTR,2) TO Q:LINE

DO CASE

*****  If OPEN File Is Selected Indicate O File Selection

   CASE Q:REPLY = '1'
      STORE 1 TO Q:NBPASSES
      STORE 'O' TO Q:FILE

*****  If CLOSE File Is Selected Indicate C File Selection

   CASE Q:REPLY = '2'
      STORE 1 TO Q:NBPASSES
      STORE 'C' TO Q:FILE

*****  If OPEN File Is Selected Indicate O File Selection
*****  and Indicate Two Passes Required For Execution of
*****  Generated Code

   CASE Q:REPLY = '3'
      STORE 2 TO Q:NBPASSES
      STORE 'O' TO Q:FILE
ENDCASE
STORE ' ' TO Q:SELCMD1
STORE ' ' TO Q:SELCMD2
STORE '00' TO Q:SELECT
STORE 0 TO Q:ITEM

*****  Start Loop To Accept Selection Criteria

DO WHILE Q:ITEM <= 4 .AND. Q:SELECT <> '58'

*****  Display First Screen of Menu

   IF Q:SELECT = '00'
*  - SCREEN1 MENU -
      ERASE
      @ 2,20 SAY 'Enter Selection Criteria For This Query'
      @ 3,20 SAY '(A Maximum of 5 Items May Be Selected)'
      @ 4,0 SAY '----------------------------------------';
              + '----------------------------------------'
      @ 5,0 SAY 'Data Elements'
      @ 5,25 SAY '!'
*     SET COLOR TO 112,2
      @ 5,27 SAY ' 58  End Element Select'
      @ 5,53 SAY ' 59  Abandon Query'
*     SET COLOR TO 112, 6
      @ 5,51 SAY '!'
      @ 6,25 SAY '!'
      @ 6,51 SAY '!'
      @ 7,1 SAY '01  Case Number'
      @ 7,25 SAY '!  11  Origin Code'
      @ 7,51 SAY '!  21  Interim Repor'
      @ 7,71 SAY 't Date'
      @ 8,1 SAY '02  Cog'
      @ 8,25 SAY '!  12  Type Document'
```

```
      @ 8,51 SAY '!   22  Origin Prep Date'
      @ 9,1 SAY '03   NSN'
      @ 9,25 SAY '!   13  Discovery Date      !';
              + '   23  Document Number'
      @ 10,1 SAY '04   Category'
      @ 10,25 SAY '!   14  Date Received'
      @ 10,51 SAY '!   24  Report Contro'
      @ 10,71 SAY 'l Number'
      @ 11,1 SAY '05   Nomenclature'
      @ 11,25 SAY '!   15  Open Date'
      @ 11,51 SAY '!   25  FSCM'
      @ 12,1 SAY '06   UIC of Origin'
      @ 12,25 SAY '!   16  Transmittal Date    !';
              + '   26  Contract Number'
      @ 13,1 SAY '07   Unit of Issue'
      @ 13,25 SAY '!   17  IM Response Date    !';
              + '   27  Credit Code'
      @ 14,1 SAY '08   Unit Price'
      @ 14,25 SAY '!   18  Close Date'
      @ 14,51 SAY '!   28  Screening Code'
      @ 15,1 SAY '09   Quantity Deficient   !';
             +'  19  Reopen Date          !  29   SMIC'
      @ 16,1 SAY '10   Extended Price'
      @ 16,25 SAY '!   20  Screen Report'
      @ 16,46 SAY 'Date !   30  Next Page of Elements'
      @ 17,0 SAY '-------------------------------------------';
              + '-------------------------------------------'
      @ 18,0 SAY 'Relations    a - Include     b - Exclude'
      @ 18,42 SAY 'c - Range     d - Equal'
      @ 19,10 SAY 'e - Not Equal          f - Less Than      ';
              + '   g - Greater Than'
      @ 21,27 SAY 'Enter Data Element Number ' GET ;
                 Q:SELECT PICTURE '99'
      READ
      DO WHILE Q:SELECT < '00' .OR. Q:SELECT > '59'
         @ 23,26 SAY 'Select From Above (00 - 59)' + CHR(7)
         @ 21,27 SAY 'Enter Data Element Number ' GET ;
                    Q:SELECT PICTURE '99'
         READ
      ENDDO
      @ 23,26 SAY '                              '
   ELSE

*****  Display Second Screen of Menu

      IF Q:SELECT = '30'
         ERASE
         @ 2,20 SAY 'Enter Selection Criteria For This';
              + ' Query'
         @ 3,20 SAY '(A Maximum of 5 Items May Be Selected)'
         @ 4,0 SAY '-----------------------------------------';
            + '-----------------------------------------'
         @ 5,0 SAY 'Data Elements'
         @ 5,25 SAY '!'
*        SET COLOR TO 112,2
         @ 5,27 SAY ' 58  End Element Select'
         @ 5,53 SAY ' 59  Abandon Query'
*        SET COLOR TO 112, 6
         @ 5,51 SAY '!'
         @ 6,25 SAY '!'
         @ 6,51 SAY '!'
         @ 7,1 SAY '31   9Q Region'
         @ 7,25 SAY '!   40   Deficiency Ver       !';
                 + '   49   Action Code'
         @ 8,1 SAY '32   Type Defect'
         @ 8,25 SAY '!   41   Deficiency Resp      !';
                 + '   50   Cost Code'
         @ 9,1 SAY '33   Vendor Liab Code'
         @ 9,25 SAY '!   42   New-Repair/Ovhl      !';
```

```
                  + '  51  Status Code'
      @ 10,1 SAY '34  Action Point'
      @ 10,25 SAY '!  43  Date Mfg/Ovhl'
      @ 10,51 SAY '!  52  Cause Code'
      @ 11,1 SAY '35  Screen Quantity'
      @ 11,25 SAY "!  44  Opn Time at Failure!";
                 + "  53  Action Dis'n"
      @ 12,1 SAY '36  Analyst Code'
      @ 12,25 SAY '!  45  GFM'
      @ 12,51 SAY '!  54  Part Number'
      @ 13,1 SAY '37  Quantity Inspected  !';
             + '  46  Work Unit Code      !  55'
      @ 13,58 SAY 'Lot/Ser/Batch'
      @ 14,1 SAY '38  Quantity Received   !';
             + '  47  Discovery Code      !  56'
      @ 14,58 SAY 'Def Item'
      @ 15,1 SAY '39  Quantity in Stock   !';
             + '  48  Return Code         !  57'
      @ 15,58 SAY 'Warranty'
      @ 16,1 SAY '58  End Element Select  !';
             + '  59  Abandon Query'
      @ 16,51 SAY '!  00  Prev Page of Elements'
      @ 17,0 SAY '-----------------------------------';
        + '----------------------------------------'
      @ 18,0 SAY 'Relations   a - Include    b - Exclude'
      @ 18,42 SAY 'c - Range    d - Equal'
      @ 19,10 SAY 'e - Nct Equal        f - Less Than    ';
             + '    g - Greater Than'
      @ 21,27 SAY 'Enter Data Element Number ' GET ;
                 Q:SELECT PICTURE '99'
      READ
      DO WHILE Q:SELECT < '00' .OR. Q:SELECT > '59'
         @ 23,26 SAY 'Select From Above (00 - 59)'+CHR(7)
         @ 21,27 SAY 'Enter Data Element Number ' ;
                    GET Q:SELECT PICTURE '99'
         READ
      ENDDO
      @ 23,26 SAY '                               '
   ELSE

*****   Begin Case To Generate Formats For Entering Initial
*****   Values - Each Selected Item Has Its Name and Picture
*****   Stored in an Indirect Variable

      DO CASE

*****   If Termination Requested Release Local Memory and
*****   Return to Calling Routine

         CASE Q:SELECT = '59'
            RELEASE ALL LIKE Q:*
            RETURN

*****   Begin Generating Selection Code
*****   If a Character Field Set Character Flag
*****   Lcad The Picture for the Data Field
*****   Initialize the Data Field and Then Continue
*****   To Generate Code

         CASE Q:SELECT = '01'
           STORE 'CASE' TO Q:SELITEM
           STORE "'999999A'" TO Q:SELPIC
           STORE '        ' TO Q:INIT1
           STORE T TO Q:CHAR
           STORE 'Q:SELCMD1' TO Q:SELCMD
         CASE Q:SELECT = '02'
           STORE 'COG' TO Q:SELITEM
           STORE "'9A'" TO Q:SELPIC
           STORE T TO Q:CHAR
```

```
  STORE '  ' TO Q:INIT1
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '03'
  STORE 'NSN' TO Q:SELITEM
  STORE "'9999XXXX9999'" TO Q:SELPIC
  STORE T TO Q:CHAR
  STORE '             ' TO Q:INIT1
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '04'
  STORE 'CAT' TO Q:SELITEM
  STORE "'9'" TO Q:SELPIC
  STORE ' ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '05'
  STORE 'NOMEN' TO Q:SELITEM
  STORE "'XXXXXXXXXXXXXXXXXXXX'" TO Q:SELPIC
  STORE '                    ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '06'
  STORE 'UIC' TO Q:SELITEM
  STORE "'AXXXXX'" TO Q:SELPIC
  STORE '      ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '07'
  STORE 'UI' TO Q:SELITEM
  STORE "'AA'" TO Q:SELPIC
  STORE '  ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '08'
  STORE 'UPRC' TO Q:SELITEM
  STORE "'999999.99'" TO Q:SELPIC
  STORE 9 TO Q:NR
  STORE 2 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '09'
  STORE 'QTYDEF' TO Q:SELITEM
  STORE "'999999'" TO Q:SELPIC
  STORE 6 TO Q:NR
  STORE 0 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '10'
  STORE 'EPRC' TO Q:SELITEM
  STORE "'999999999.99'" TO Q:SELPIC
  STORE 12 TO Q:NR
  STORE 2 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '11'
  STORE 'ORG' TO Q:SELITEM
  STORE "'XXX'" TO Q:SELPIC
  STORE '   ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '12  '
  STORE 'DOC' TO Q:SELITEM
  STORE "'9'" TO Q:SELPIC
  STORE ' ' TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '13'
```

```
    STORE '$(DATES,1,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '14'
    STORE '$(DATES,6,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '15'
    STORE '$(DATES,11,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '16'
    STORE '$(DATES,16,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '17'
    STORE '$(DATES,26,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '18'
    STORE '$(DATES,36,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '19'
    STORE '$(DATES,41,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '20'
    STORE '$(DATES,21,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '21'
    STORE '$(DATES,31,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '22'
    STORE '$(DATES,46,5)' TO Q:SELITEM
    STORE "'99999'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '23'
    STORE 'DOCNO' TO Q:SELITEM
    STORE "'XXXXXX99999999'" TO Q:SELPIC
    STORE '              ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '24'
    STORE 'REPCON' TO Q:SELITEM
    STORE "'XXXXXX999999'" TO Q:SELPIC
    STORE '            ' TO Q:INIT1
```

```
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '25'
    STORE 'FSCM' TO Q:SELITEM
    STORE "'XXXXX'" TO Q:SELPIC
    STORE '     ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '26'
    STORE 'NUM' TO Q:SELITEM
    STORE "'XXXXXX99AXXXXXXXX'" TO Q:SELPIC
    STORE '                   ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '27'
    STORE 'CR' TO Q:SELITEM
    STORE "'A'" TO Q:SELPIC
    STORE ' ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '28'
    STORE 'SCR' TO Q:SELITEM
    STORE "'XXX'" TO Q:SELPIC
    STORE '   ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '29'
    STORE 'SM' TO Q:SELITEM
    STORE "'AX'" TO Q:SELPIC
    STORE '  ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '31'
    STORE 'C9Q' TO Q:SELITEM
    STORE "'X'" TO Q:SELPIC
    STORE ' ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '32'
    STORE 'DEF' TO Q:SELITEM
    STORE "'99'" TO Q:SELPIC
    STORE '  ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '33'
    STORE 'VLC' TO Q:SELITEM
    STORE "'A'" TO Q:SELPIC
    STORE ' ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '34'
    STORE 'ACTPT' TO Q:SELITEM
    STORE "'AXXXXX99999'" TO Q:SELPIC
    STORE '           ' TO Q:INIT1
    STORE T TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '35'
    STORE 'SCRQTY' TO Q:SELITEM
    STORE "'999999'" TO Q:SELPIC
    STORE 6 TO Q:NR
    STORE 0 TO Q:DEC
    STORE 0 TO Q:INIT1
    STORE F TO Q:CHAR
    STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '36'
    STORE 'WHO' TO Q:SELITEM
    STORE "'XXXX'" TO Q:SELPIC
    STORE '    ' TO Q:INIT1
    STORE T TO Q:CHAR
```

```
  STORE 'Q:SELCMD1' TO Q:SELCMD
CASE Q:SELECT = '37'
  STORE 'QTYINS' TO Q:SELITEM
  STORE "'999999'" TO Q:SELPIC
  STORE 6 TO Q:NR
  STORE 0 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 6 TO Q:NR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '38'
  STORE 'QTYREC' TO Q:SELITEM
  STORE "'999999'" TO Q:SELPIC
  STORE 6 TO Q:NR
  STORE 0 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 6 TO Q:NR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '39'
  STORE 'QTYSTK' TO Q:SELITEM
  STORE "'999999'" TO Q:SELPIC
  STORE 6 TO Q:NR
  STORE 0 TO Q:DEC
  STORE 0 TO Q:INIT1
  STORE F TO Q:CHAR
  STORE 6 TO Q:NR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '40'
  STORE 'DEFV' TO Q:SELITEM
  STORE "'A'" TO Q:SELPIC
  STORE " " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '41'
  STORE 'DEFR' TO Q:SELITEM
  STORE "'A'" TO Q:SELPIC
  STORE " " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '42'
  STORE 'ITEM' TO Q:SELITEM
  STORE "'A'" TO Q:SELPIC
  STORE  " " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '43'
  STORE 'CVER' TO Q:SELITEM
  STORE "'99999'" TO Q:SELPIC
  STORE  "     " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '44'
  STORE 'CTF' TO Q:SELITEM
  STORE "'A9999'" TO Q:SELPIC
  STORE  "     " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '45'
  STORE 'GOV' TO Q:SELITEM
  STORE "'X'" TO Q:SELPIC
  STORE  " " TO Q:INIT1
  STORE T TO Q:CHAR
  STORE 'Q:SELCMD2' TO Q:SELCMD
CASE Q:SELECT = '46'
  STORE 'WUC' TO Q:SELITEM
  STORE "'XXXXXXX'" TO Q:SELPIC
  STORE  "       " TO Q:INIT1
  STORE T TO Q:CHAR
```

```
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '47'
              STORE 'DIS' TO Q:SELITEM
              STORE "'AA'" TO Q:SELPIC
              STORE  "  " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '48'
              STORE 'RETC' TO Q:SELITEM
              STORE "'9'" TO Q:SELPIC
              STORE " " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '49'
              STORE 'ACTTKN' TO Q:SELITEM
              STORE "'AAA'" TO Q:SELPIC
              STORE  "   " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '50'
              STORE 'COSTC' TO Q:SELITEM
              STORE "'A'" TO Q:SELPIC
              STORE " " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '51'
              STORE 'STATUSC' TO Q:SELITEM
              STORE "'AA'" TO Q:SELPIC
              STORE  "  " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '52'
              STORE 'CAUSEC' TO Q:SELITEM
              STORE "'A'" TO Q:SELPIC
              STORE " " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '53'
              STORE 'ACTDISP' TO Q:SELITEM
              STORE "'A'" TO Q:SELPIC
              STORE " " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '54'
              STORE 'MFG' TO Q:SELITEM
              STORE "'XXXXXXXXXXXXXXXX'" TO Q:SELPIC
              STORE  "                " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '55'
              STORE 'LOT' TO Q:SELITEM
              STORE "'XXXXXXXXX'" TO Q:SELPIC
              STORE  "         " TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
            CASE Q:SELECT = '56'
              STORE 'DITEM' TO Q:SELITEM
              STORE "'XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX'";
                     TO Q:SELPIC
              STORE  "                                   ";
                     TO Q:INIT1
              STORE T TO Q:CHAR
              STORE 'Q:SELCMD2' TO Q:SELCMD
         ENDCASE

*****  Display Selection Relations and Accept Relationship
*****  and Initial Search Values

   IF Q:SELECT<>'00' .AND. Q:SELECT<>'30' .AND.;
```

```
      Q:SELECT<>'58'
      STORE Q:ITEM + 1 TO Q:ITEM
      ERASE
      STORE ' ' TO Q:SELECT
      @ 06,0 SAY 'Relations    a - Include     b - Exclude'
      @ 06,42 SAY 'c - Range     d - Equal'
      @ 07,10 SAY 'e - Not Equal           f - Less Than       ';
              + '   g - Greater Than'
      @ 10,10 SAY 'Enter Relationship for Selection ' GET ;
                    Q:SELECT PICTURE 'A'
      READ

*****  Validate Entered Value

      DO WHILE !(Q:SELECT) < 'A' .OR. !(Q:SELECT) > 'G'
         @ 23,18 SAY 'Enter Relationship as Displayed ';
                  + 'Above (A - G)' + CHR(7)
         @ 10,10 SAY 'Enter Relationship for Selection ';
                     GET Q:SELECT PICT 'A'
         READ
      ENDDO
      @ 23,18 SAY '                                       ';
                + '         '

*****  If Range Selected, Accept Two Initial Values

      IF !(Q:SELECT) = 'C'
         STORE Q:INIT1 TO Q:INIT2
         @ 14,10 SAY 'Enter MINIMUM Value Allowed ' ;
                      GET Q:INIT1 PICT &Q:SELPIC
         READ
         @ 16,10 SAY 'Enter MAXIMUM Value Allowed ' ;
                      GET Q:INIT2 PICT &Q:SELPIC
         READ

*****  Ensure That Values are Properly Ordered

         IF Q:INIT1 > Q:INIT2
            STORE Q:INIT1 TO Q:TEMP
            STORE Q:INIT2 TO Q:INIT1
            STORE Q:TEMP TO Q:INIT2
            RELEASE Q:TEMP
         ENDIF

*****  If Character Field, Place Quotes Around Initial
*****  Value(s)

         IF Q:CHAR
            STORE "'"+!(Q:INIT1)+"'" TO Q:INIT1
            STORE "'"+!(Q:INIT2)+"'" TO Q:INIT2
         ELSE

*****  Format Numerics to be Characters For Code Generation

            STORE STR(Q:INIT1,Q:NR,Q:DEC) TO Q:INIT1T
            STORE Q:INIT1T TO Q:INIT1
            STORE STR(Q:INIT2,Q:NR,Q:DEC) TO Q:INIT2T
            STORE Q:INIT2T TO Q:INIT2
            RELEASE Q:INIT1T, Q:INIT2T
         ENDIF

*****  Form Partial Command Line

         IF &Q:SELCMD = ' '
            STORE Q:SELITEM+'>'+Q:INIT1+'.AND.'+Q:SELITEM+;
                             '<'+Q:INIT2 TO &Q:SELCMD
         ELSE
            STORE &Q:SELCMD+'.AND.'+Q:SELITEM+'>'+Q:INIT1;
               +'.AND.'+Q:SELITEM+'<'+Q:INIT2 TO &Q:SELCMD
```

```
            ENDIF
         ELSE

*****    Accept Selection Values For Query (Single Value)

           @ 12,10  SAY 'Enter Value for Selection ' GET;
                    Q:INIT1 PICT &Q:SELPIC
            READ

*****    If Character, Place Quotes Around Initial Value

            IF Q:CHAR
               STORE "'"+!(Q:INIT1)+"'" TO Q:INIT1
            ELSE

*****    Format Numerics to be Characters For Code Generation

               STORE STR(Q:INIT1,Q:NR,Q:DEC) TO Q:INIT1T
               STORE Q:INIT1T TO Q:INIT1
               RELEASE Q:INIT1T
            ENDIF

*****    Form Partial Command Line
*****    Command Line Formation Uses Indirect Addressing to
*****    Point to the Location Of the Command Line

*****    If A Previous Line Has Been Created, Join Together
*****    With an AND

            IF &Q:SELCMD <> ' '
                STORE &Q:SELCMD+'.AND.' TO &Q:SELCMD
            ENDIF
            DO CASE
               CASE !(Q:SELECT) = 'A'
                  STORE &Q:SELCMD-Q:SELITEM+'='+Q:INIT1 TO &Q:SELCMD
               CASE !(Q:SELECT) = 'B'
                  STORE &Q:SELCMD-Q:SELITEM+'<>'+Q:INIT1 TO &Q:SELCMD
               CASE !(Q:SELECT) = 'D'
                  STORE &Q:SELCMD-Q:SELITEM+'='+Q:INIT1 TO &Q:SELCMD
               CASE !(Q:SELECT) = 'E'
                  STORE &Q:SELCMD-Q:SELITEM+'<>'+Q:INIT1 TO &Q:SELCMD
               CASE !(Q:SELECT) = 'F'
                  STORE &Q:SELCMD-Q:SELITEM+'<'+Q:INIT1 TO &Q:SELCMD
               CASE !(Q:SELECT) = 'G'
                  STORE &Q:SELCMD-Q:SELITEM+'>'+Q:INIT1 TO &Q:SELCMD
            ENDCASE
         ENDIF
         STORE '00' TO Q:SELECT
      ENDIF
         ENDIF
      ENDIF
ENDDO
*SET COLOR TO 112, 3
RELEASE Q:SELITEM, Q:SELPIC, Q:CHAR, Q:INIT1, Q:INIT2, Q:NR
STORE F TO Q:DATESEL
STORE 'CASE ' TO Q:FIDCMD1
STORE 'CASE ' TO Q:FIDCMD2
STORE ' ' TO Q:FIELD
STORE 0 TO Q:ITEM
STORE '00' TO Q:SELECT
STORE ' ' TO Q:CHOSEN

*****    Display Selection Menu to Allow Selection of Items
*****    To Be Displayed - Displays First Screen

DO WHILE Q:ITEM <= 9 .AND. Q:SELECT <> '58'
   IF Q:SELECT = '00'
      ERASE
      @ 2,21 SAY 'Enter Field Selection For This Query'
```

```
        @ 3,19 SAY '(A Maximum of 10 Fields May Be Selected)'
        @ 4,0 SAY '-----------------------------------------';
                + '-----------------------------------------'
        @ 5,0 SAY 'Data Elements'
        @ 5,25 SAY '!'
*       SET COLOR TO 112,2
        @ 5,27 SAY ' 58  End Element Select'
        @ 5,53 SAY ' 59  Abandon Query'
*       SET COLOR TO 112, 3
        @ 5,51 SAY '!'
        @ 6,25 SAY '!'
        @ 6,51 SAY '!'
        @ 7,1 SAY '01  Case Number'
        @ 7,25 SAY '!  11  Origin Code'
        @ 7,51 SAY '!  21  Interim Repor'
        @ 7,71 SAY 't Date'
        @ 8,1 SAY '02  Cog'
        @ 8,25 SAY '!  12  Type Document'
        @ 8,51 SAY '!  22  Origin Prep Date'
        @ 9,1 SAY '03  NSN'
        @ 9,25 SAY '!  13  Discovery Date     !';
                  + '  23  Document Number'
        @ 10,1 SAY '04  Category'
        @ 10,25 SAY '!  14  Date Received'
        @ 10,51 SAY '!  24  Report Contro'
        @ 10,71 SAY 'l Number'
        @ 11,1 SAY '05  Nomenclature'
        @ 11,25 SAY '!  15  Open Date'
        @ 11,51 SAY '!  25  FSCM'
        @ 12,1 SAY '06  UIC of Origin'
        @ 12,25 SAY '!  16  Transmittal Date   !';
                  + '  26  Contract Number'
        @ 13,1 SAY '07  Unit of Issue'
        @ 13,25 SAY '!  17  IM Response Date   !';
                  + '  27  Credit Code'
        @ 14,1 SAY '08  Unit Price'
        @ 14,25 SAY '!  18  Close Date'
        @ 14,51 SAY '!  28  Screening Code'
        @ 15,1 SAY '09  Quantity Deficient  !';
                + '  19  Reopen Date         !  29  SMIC'
        @ 16,1 SAY '10  Extended Price'
        @ 16,25 SAY '!  20  Screen Report'
        @ 16,46 SAY 'Date !  30  Next Page of Elements'
        @ 17,0 SAY '-----------------------------------------';
               + '-----------------------------------------'

*****   Display Previously Selected Fields

        @ 19,0 SAY 'Fields Currently Selected '+ Q:CHOSEN
        @ 21,27 SAY 'Enter Field Number ' GET Q:SELECT PICTURE '99'
        READ

*****   Validate Field Selection

        DO WHILE Q:SELECT < '00' .OR. Q:SELECT > '59'
           @ 23,26 SAY 'Select From Above (00 - 59) '+CHR(7)
           @ 21,27 SAY 'Enter Field Number ' GET ;
                       Q:SELECT PICTURE '99'
           READ
        ENDDO
        @ 23,26 SAY '                               '
     ELSE

*****   Display Second Screen For Selection

        IF Q:SELECT = '30'
           ERASE
           @ 2,21  SAY 'Enter Field Selection For This Query'
           @ 3,19  SAY '(A Maximum of 10 Fields May Be Selected)'
```

```
          @ 4,0 SAY '-----------------------------------';
            + '-------------------------------------'
          @ 5,0 SAY 'Data Elements'
          @ 5,25 SAY '!'
*         SET COLOR TO 112,2
          @ 5,27 SAY ' 58  End Element Select'
          @ 5,53 SAY ' 59  Abandon Query'
*         SET COLOR TO 112, 3
          @ 5,51 SAY '!'
          @ 6,25 SAY '!'
          @ 6,51 SAY '!'
          @ 7,1 SAY '31  90 Region'
          @ 7,25 SAY '!  40  Deficiency Ver      !';
                   + '  49  Action Code'
          @ 8,1 SAY '32  Type Defect'
          @ 8,25 SAY '!  41  Deficiency Resp     !';
                   + '  50  Cost Code'
          @ 9,1 SAY '33  Vendor Liab Code'
          @ 9,25 SAY '!  42  New-Repair/Ovhl     !';
                   + '  51  Status Code'
          @ 10,1 SAY '34  Action Point'
          @ 10,25 SAY '!  43  Date Mfg/Ovhl'
          @ 10,51 SAY '!  52  Cause Code'
          @ 11,1 SAY '35  Screen Quantity'
          @ 11,25 SAY "!  44  Opn Time at Failure!";
                   + "  53  Action Dis'n"
          @ 12,1 SAY '36  Analyst Code'
          @ 12,25 SAY '!  45  GFM'
          @ 12,51 SAY '!  54  Part Number'
          @ 13,1 SAY '37  Quantity Inspected  !';
                 + '  46  Work Unit Code      !  55'
          @ 13,58 SAY 'Lot/Ser/Batch'
          @ 14,1 SAY '38  Quantity Received   ! ';
                 + '  47  Discovery Code      !  56'
          @ 14,58 SAY 'Def Item'
          @ 15,1 SAY '39  Quantity in Stock   !  ';
                 + '48  Return Code          !  57'
          @ 15,58 SAY 'Warranty'
          @ 16,1 SAY '58  End Element Select  !';
                 + '  59  Abandon Query'
          @ 16,51 SAY '!  00  Prev Page of Elements'
          @ 17,0 SAY '-----------------------------------';
            + '-------------------------------------'
          @ 19,0 SAY 'Fields Currently Selected '+ Q:CHOSEN
          @ 21,27 SAY 'Enter Field Number ' GET ;
                       Q:SELECT PICTURE '99'
          READ

*****   Validate Field Selection

          DO WHILE Q:SELECT < '00' .OR. Q:SELECT > '59'
             @ 23,26 SAY 'Select From Above (00 - 59)'+CHR(7)
             @ 21,27 SAY 'Enter Field Number ' GET ;
                          Q:SELECT PICTURE '99'
             READ
          ENDDO
          @ 23,26 SAY '                              '
       ELSE

*****   Begin Creating Code For Fields Selected

          DO CASE

*****   If 59 Entered, Release All Local Memory and Return

             CASE Q:SELECT = '59'
                RELEASE ALL LIKE Q:*
                RETURN
```

```
*****  Store Selection Name to Q:SELITEM
*****  Store Field Selection Pointer To Q:FLDCMD

          CASE Q:SELECT = '01'
            STORE 'CASE' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '02'
            STORE 'COG' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '03'
            STORE 'NSN' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '04'
            STORE 'CAT' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '05'
            STORE 'NOMEN' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '06'
            STORE 'UIC' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '07'
            STORE 'UI' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '08'
            STORE 'UPRC' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '09'
            STORE 'QTYDEF' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '10'
            STORE 'EPRC' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '11'
            STORE 'CRG' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '12'
            STORE 'DOC' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '13'
            STORE '$(DATES, 1,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '14'
            STORE '$(DATES, 6,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '15'
            STORE '$(DATES,11,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '16'
            STORE '$(DATES,16,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '17'
            STORE '$(DATES,26,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '18'
            STORE '$(DATES,36,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '19'
            STORE '$(DATES,41,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '20'
            STORE '$(DATES,21,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '21'
            STORE '$(DATES,31,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
          CASE Q:SELECT = '22'
            STORE '$(DATES,46,5)' TO Q:SELITEM
            STORE 'Q:FLDCMD1' TO Q:FLDCMD
```

```
CASE Q:SELECT = '23'
  STORE 'DOCNO' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '24'
  STORE 'REPCON' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '25'
  STORE 'FSCM' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '26'
  STORE 'NUM' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '27'
  STORE 'CR' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '28'
  STORE 'SCR' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '29'
  STORE 'SM' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '31'
  STORE 'C9Q' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '32'
  STORE 'DEF' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '33'
  STORE 'VLC' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '34'
  STORE 'ACTPT' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '35'
  STORE 'SCRQTY' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '36'
  STORE 'WHO' TO Q:SELITEM
  STORE 'Q:FLDCMD1' TO Q:FLDCMD
CASE Q:SELECT = '37'
  STORE 'QTYINS' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '38'
  STORE 'QTYREC' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '39'
  STORE 'QTYSTK' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '40'
  STORE 'DEFV' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '41'
  STORE 'DEFR' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '42'
  STORE 'ITEM' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '43'
  STORE 'CVER' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '44'
  STORE 'OTF' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '45'
  STORE 'GOV' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
CASE Q:SELECT = '46'
  STORE 'WUC' TO Q:SELITEM
  STORE 'Q:FLDCMD2' TO Q:FLDCMD
```

```
            CASE Q:SELECT = '47'
              STORE 'DIS' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '48'
              STORE 'RETC' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '49'
              STORE 'ACTTKN' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '50'
              STORE 'COSTC' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '51'
              STORE 'STATUSC' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '52'
              STORE 'CAUSEC' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '53'
              STORE 'ACTDISP' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '54'
              STORE 'MFG' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '55'
              STORE 'LOT' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '56'
              STORE 'DITEM' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
            CASE Q:SELECT = '57'
              STORE 'WNTY' TO Q:SELITEM
              STORE 'Q:FLDCMD2' TO Q:FLDCMD
         ENDCASE
         IF Q:SELECT <> '00' .AND. Q:SELECT <> '30' .AND.;
                Q:SELECT <> '58'
            STORE Q:ITEM + 1 TO Q:ITEM
            IF Q:ITEM = 1
               STORE Q:SELECT TO Q:CHOSEN
               STORE Q:SELITEM TO Q:DISPLAY
            ELSE
               STORE Q:CHOSEN+', '+Q:SELECT TO Q:CHOSEN
               STORE Q:DISPLAY+','+Q:SELITEM TO Q:DISPLAY
            ENDIF
            IF Q:SELECT <> '01'
               IF $(Q:SELITEM,1,1)='$' .AND. .NOT. Q:DATESEL
                  STORE 'DATES' TO Q:SELITEM
                  STORE &Q:FLDCMD-','+Q:SELITEM TO &Q:FLDCMD
                  STORE ' ' TO Q:SELITEM
                  STORE T TO Q:DATESEL
               ELSE
                  IF $(Q:SELITEM,1,1)<>'$'
                     STORE &Q:FLDCMD-','+Q:SELITEM TO &Q:FLDCMD
                  ENDIF
               ENDIF
            ENDIF

*****  Generate Code For Field Selection
            IF Q:FIELD = ' '
               STORE Q:FIELD-Q:SELITEM TO Q:FIELD
            ELSE
               STORE Q:FIELD-','-Q:SELITEM TO Q:FIELD
            ENDIF
            STORE '00' TO Q:SELECT
         ENDIF
      ENDIF
   ENDIF
ENDDO
```

```
*****  Release All Unnecessary Memory Variables

RELEASE Q:REPLY, Q:SELECT, Q:ITEM, Q:SELITEM, Q:SELCMD,;
        Q:FLDCMD, Q:CHOSEN

STORE Q:NRPASSES TO Q:LOOPCNT

*****  If Both OPEN and CLOSED Files are Selected
*****  The Execution loop Will Be Run Twice

DO WHILE Q:LOOPCNT >= 1

*****  Select File To Be Used In This Query

IF Q:FILE = 'O'
   STORE 'D:'+C:WHO-'OPEN' TO Q:TEMP3
ELSE
   STORE 'D:'+C:WHO-'CLOS' TO Q:TEMP3
ENDIF

*****  Generate Executable Code To Perform Query Selection
*****  Check to See If The Selection Deals With The First
*****  Half of the Data Base

IF Q:SELCMD1 <> ' '
   IF Q:FILE = 'O'
      STORE 'USE D:OPEN1'TO &Q:LINE
      STORE Q:CNTR + 1 TO Q:CNTR
      STORE 'Q:L' + STR(Q:CNTR,2) TO Q:LINE
   ELSE
      STORE 'USE D:CLOSE1'TO &Q:LINE
      STORE Q:CNTR + 1 TO Q:CNTR
      STORE 'Q:L' + STR(Q:CNTR,2) TO Q:LINE
   ENDIF
   STORE 'D:'+C:WHO+'IMP1' TO Q:TEMP1
   STORE 'COPY TO '+Q:TEMP1 TO &Q:LINE
   IF Q:FLDCMD1 <> 'CASE '
      STORE &Q:LINE+' FIELD '+Q:FLDCMD1+' FOR '+Q:SELCMD1;
             TO &Q:LINE
   ELSE
      STORE &Q:LINE+' FOR '+Q:SELCMD1 TO &Q:LINE
   ENDIF
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
ENDIF
*****  Generate Executable Code To Perform Query Selection
*****  Check to See If The Selection Deals With The Second
*****  Half of the Data Base

IF Q:SELCMD2 <> ' '
   IF Q:FILE = 'O'
      STORE 'USE D:OPEN2' TO &Q:LINE
      STORE Q:CNTR + 1 TO Q:CNTR
      STORE 'Q:L' + STR(Q:CNTR,2) TO Q:LINE
   ELSE
      STORE 'USE D:CLOSE2' TO &Q:LINE
      STORE Q:CNTR + 1 TO Q:CNTR
      STORE 'Q:L' + STR(Q:CNTR,2) TO Q:LINE
   ENDIF
   STORE 'D:'+C:WHO+'IMP2' TO Q:TEMP2
   STORE 'COPY TO '+Q:TEMP2 TO &Q:LINE
   IF Q:FLDCMD2 <> 'CASE '
      STORE &Q:LINE+' FIELD '+Q:FLDCMD2+' FOR '+Q:SELCMD2;
            TO &Q:LINE
   ELSE
      STORE &Q:LINE+' FOR '+Q:SELCMD2 TO &Q:LINE
   ENDIF
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
```

```
ENDIF

*****   Generate Code to Join Together Both Halves of the
*****   Selected Files

IF Q:SELCMD1 <> ' ' .AND. Q:SELCMD2 <> ' '
   STORE 'SELECT PRIMARY' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'USE '+Q:TEMP1 TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'SELECT SECONDARY' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'USE '+Q:TEMP2 TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'JOIN TO '+Q:TEMP3+' FOR P.CASE=S.CASE FIELD '+;
         Q:FIELD TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'USE' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'DELETE FILE D:'+Q:TEMP1-'.DBF' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'DELETE FILE D:'+Q:TEMP2-'.DBF' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
ELSE
   IF Q:SELCMD1 <> ' ' .AND. Q:SELCMD2 = ' '

*****   Generate Codes to Rename Files as Necessary
     IF Q:FLDCMD2 = 'CASE '
        STORE 'RENAME '+Q:TEMP1-'.DBF TO '+Q:TEMP3-'.DBF';
              TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
     ELSE
        STORE 'SELECT SECONDARY' TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        STORE 'USE '+Q:TEMP1 TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        STORE 'SELECT PRIMARY' TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        IF Q:FILE = 'O'
           STORE 'USE D:OPEN2' TO &Q:LINE
           STORE Q:CNTR + 1 TO Q:CNTR
           STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        ELSE
           STORE 'USE D:CLOSE2' TO &Q:LINE
           STORE Q:CNTR + 1 TO Q:CNTR
           STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        ENDIF
        STORE 'JOIN TO '+Q:TEMP3+;
          ' FOR P.CASE=S.CASE FIELD '+Q:FIELD TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        STORE 'USE' TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
        STORE 'DELETE FILE D:'+Q:TEMP1-'.DBF' TO &Q:LINE
        STORE Q:CNTR + 1 TO Q:CNTR
        STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
```

```
      ENDIF
   ELSE
      IF Q:FLDCMD1 = 'CASE '
         STORE 'RENAME '+Q:TEMP2-'.DBF TO '+Q:TEMP3-'.DBF';
             TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
      ELSE
         STORE 'SELECT SECONDARY' TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         STORE 'USE '+Q:TEMP2 TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         STORE 'SELECT PRIMARY' TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         IF Q:FILE = 'O'
            STORE 'USE D:OPEN1' TO &Q:LINE
            STORE Q:CNTR + 1 TO Q:CNTR
            STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         ELSE
            STORE 'USE D:CLOSE1' TO &Q:LINE
            STORE Q:CNTR + 1 TO Q:CNTR
            STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         ENDIF
         STORE 'JOIN TO '+Q:TEMP3+' FOR P.CASE=S.CASE '
               +'FIELD '+Q:FIELD TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         STORE 'USE' TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
         STORE 'DELETE FILE D:'+Q:TEMP2-'.DBF' TO &Q:LINE
         STORE Q:CNTR + 1 TO Q:CNTR
         STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
      ENDIF
   ENDIF
ENDIF
STORE Q:LOOPCNT-1 TO Q:LOOPCNT

*****  If Two Passes Required, Switch to Closed File
*****  For Second Pass
IF Q:NRPASSES = 2
   STORE 'C' TO Q:FILE
ENDIF
ENDDO

*****  If Two Passes Required, Generate Code To Join Files
*****  Created by Individual Passes

IF Q:NRPASSES = 2
   STORE 'USE D:'+C:WHO+'OPEN' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
   STORE 'APPEND FROM '+"D:"+C:WHO+'CLOS' TO &Q:LINE
   STORE Q:CNTR + 1 TO Q:CNTR
   STORE 'Q:L'+STR(Q:CNTR,2) TO Q:LINE
ENDIF
*SET COLOR TO 112, 6
ERASE
@ 10,23 SAY 'Your Query Is Now Being Processed'
@ 12,33 SAY 'Please Standby'

*****  Begin Execution of Generated Code

STORE 10 TO Q:EXECNTR
DO WHILE Q:EXECNTR <= Q:CNTR-1
   STORE 'Q:L'+STR(Q:EXECNTR,2) TO Q:EXELINE
```

```
   &&Q:EXELINE
   STORE Q:EXECNTR + 1 TO Q:EXECNTR
ENDDO
STORE "'"+'D:'+C:WHO+'OPEN.DBF'+"'" TO Q:OPENFILE
STORE "'"+'D:'+C:WHO+'CLOS.DBF'+"'" TO Q:CLOSFILE
IF FILE(&Q:OPENFILE) .AND. FILE(&Q:CLOSFILE)
   STORE 'D:'+C:WHO+'OPEN' TO Q:USEFILE
   STORE 'D:'+C:WHO+'CLOS.DBF' TO Q:DELETEF
   DELETE FILE &Q:DELETEF
ELSE
   IF FILE(&Q:OPENFILE)
      STORE 'D:'+C:WHO+'OPEN' TO Q:USEFILE
   ELSE
      STORE 'D:'+C:WHO+'CLOS' TO Q:USEFILE
   ENDIF
ENDIF

*****  Display The Number of Records Selected and
*****  Provide the Option of Hard Copy or Screen Reports

USE &Q:USEFILE
GOTO BOTTOM
ERASE
@ 10,16 SAY #
@ 10,22 SAY 'Records Have Been Selected For This Query'
@ 13,30 SAY '1. Print Hard Copy'
@ 15,30 SAY '2. Display To Screen'
@ 17,30 SAY '3. Abort Query'
STORE ' ' TO Q:REPLY
@ 20,40 GET Q:REPLY
READ
DO WHILE Q:REPLY < '1' .OR. Q:REPLY > '3'
   @ 23,33 SAY 'Enter 1, 2 or 3'+ CHR(7)
   @ 20,40 GET Q:REPLY
   READ
ENDDO
DO CASE
   CASE Q:REPLY = '1'
      SET PRINT ON
      USE &Q:USEFILE
      DO WHILE .NOT. EOF
         ERASE
         STORE 0 TO Q:LINENR
         DO WHILE .NOT. EOF .AND. Q:LINENR <= 59
            DISPLAY ALL FIELD &Q:DISPLAY OFF
            SKIP
            STORE Q:LINENR + 1 TO Q:LINENR
         ENDDO
         ? CHR(12)
      ENDDO
      SET PRINT OFF
   CASE Q:REPLY = '2'
      ERASE
      USE &Q:USEFILE
      DISPLAY ALL FIELD &Q:DISPLAY OFF
      WAIT
   CASE Q:REPLY = '3'
      USE
      DELETE FILE &Q:USEFILE+'.DBF'
      RELEASE ALL LIKE Q:*
      RETURN
ENDCASE
USE
STORE Q:USEFILE+'.DBF' TO Q:USEFILE
DELETE FILE &Q:USEFILE
RELEASE ALL LIKE Q:*
RETURN

***** END OF PROGRAM
```

XIII. STATISTICS GENERATION MODULE

```
*************************************************************************
**                                                                     **
**   Date: 19 Jan 1984                                                 **
**   Version: 1.0                                                      **
**   Module Name: STATGEN                                              **
**   Module Purpose: Generate Count of Cases in Each                   **
**                   Processing Phase and Create Time                  **
**                   Frame Statistics                                  **
**                                                                     **
**   Module Interface Definition                                       **
**      Inputs: None                                                   **
**      Outputs: None                                                  **
**   Module Processing Narrative Description:                          **
**                                                                     **
**         Calculates the Time Span Between Operations                 **
**         and Updates The TECHCODE File to Indicate the               **
**         Number of Cases in Each Processing Status                   **
**                                                                     **
**   Superordinate Modules: UTILMENU                                   **
**   Subordinate Modules: None                                         **
**   Author: R. G. NICHOLS                                             **
**                                                                     **
*************************************************************************

*****  Display Warning

ERASE
@  1,19 SAY '***** Statistics Generation Processing *****'
@  3,24 SAY '* * * * * * * * * * * * * * * * *'
@  4,24 SAY '*                               *'
@  5,24 SAY '*            WARNING            *'
@  6,24 SAY '*                               *'
@  7,24 SAY '*   This Program Will Read      *'
@  8,24 SAY '*      All Records While        *'
@  9,24 SAY '*         Processing            *'
@ 10,24 SAY '*                               *'
@ 11,24 SAY '*    If Existing Files Are      *'
@ 12,24 SAY '*    Large, This Could Take     *'
@ 13,24 SAY '*          Hours                *'
@ 14,24 SAY '*                               *'
@ 15,24 SAY '* * * * * * * * * * * * * * * * *'
@ 17,24 SAY '    Are You SURE You Want To'
@ 18,24 SAY '           Continue'
@ 19,24 SAY '        <Enter  Y or N>' + CHR(7)
STORE ' ' TO S:REPLY2
@ 21,40 GET S:REPLY2
READ
DO WHILE !(S:REPLY2) <> 'Y' .AND. !(S:REPLY2) <> 'N'
   @ 23,32 SAY 'Enter Y or N Only' + CHR(7)
   @ 21,40 GET S:REPLY2 PICTURE 'A'
   READ
ENDDO
@ 23,32 SAY '                    '
@ 17,40 SAY ' '

*****  Verify Password Prior to Beginning Computations

IF S:REPLY2 = 'Y'
   @ 21,30 SAY 'Enter Your Password '
   STORE '        ' TO S:PASSWORD
   SET CONSOLE OFF
```

```
   ACCEPT TO S:PASSWORD
   SET CONSOLE ON
   IF S:PASSWORD <> '       '
      USE D:TECHCODE INDEX D:TECH
      FIND &C:WHO
      IF PSWD <> S:PASSWORD .OR. # = 0
         @ 23,18 SAY 'Request ABORTED ';
                  + '- Strike Any Key To Continue'
         WAIT
         RELEASE ALL LIKE S:*
         RETURN
      ENDIF
   ENDIF
ELSE
   RELEASE ALL LIKE S:*
   RETURN
ENDIF

*****  Display Processing Message to User

ERASE
@ 6,27 SAY 'Internal Statistics Update'
@ 8,35 SAY 'In Process'
@ 16,26 SAY '***** DO NOT INTERRUPT *****'

SELECT PRIMARY
USE D:OPEN1 INDEX D:OCASE1


*****  Begin Computing Loop

DO WHILE .NOT. EOF
   DO WHILE $(DATES,46,1) <> ' ' .AND. .NOT. EOF
      STORE CASE TO S:CASE
      STORE WHO TO S:WHO

      STORE 0 TO S:ASSIGNED
      STORE 0 TO S:ACTIVE
      STORE 0 TO S:TRANSMIT
      STORE 0 TO S:RESPOND
      STORE 0 TO S:CLOSED

      STORE $(DATES,46,1) TO S:DATECHG
      STORE $(DATES,6,5) TO S:RECEIPT
      STORE $(DATES,11,5) TO S:OPEN
      STORE $(DATES,16,5) TO S:XMIT
      STORE $(DATES,26,5) TO S:RESPONSE
      STORE $(DATES,36,5) TO S:CLOSE

      STORE 0 TO S:MAILDLAY
      STORE 0 TO S:XMITDLAY
      STORE 0 TO S:RESPDLAY
      STORE 0 TO S:CLOSDLAY
      STORE 0 TO S:PROCDLAY


*****  Calculate Time Span From Receipt to Case Open

      IF S:RECEIPT <> '     ' .AND. S:OPEN <> '     '
         IF $(S:RECEIPT,1,2) < $(S:OPEN,1,2)
            IF VAL($(S:OPEN,1,2))-VAL($(S:RECEIPT,1,2))=1
               STORE VAL($(S:OPEN,3,3))+365-;
                  VAL($(S:RECEIPT,3,3))+1 TO S:MAILDLAY
            ELSE
               IF VAL($(S:OPEN,1,2))-VAL($(S:RECEIPT,1,2))=2
                  STORE VAL($(S:OPEN,3,3))+730;
                     -VAL($ (S:RECEIPT,3,3))+1 TO S:MAILDLAY
               ELSE
                  STORE 999 TO S:MAILDLAY
```

```
          ENDIF
        ENDIF
      ELSE
        STORE VAL($(S:CPEN,3,3))-VAL($(S:RECEIPT,3,3));
             +1 TO S:MAILDLAY
      ENDIF
    ENDIF
*****  Calculate Time Span From Case Open to Letter Transmit

    IF S:XMIT <> '      '
      IF $(S:CPEN,1,2) < $(S:XMIT,1,2)
        IF VAL($(S:XMIT,1,2))-VAL($(S:OPEN,1,2))=1
          STORE VAL($(S:XMIT,3,3))+365-;
             VAL($(S:OPEN,3,3))+1 TO S:XMITDLAY
        ELSE
          IF VAL($(S:XMIT,1,2))-VAL($(S:OPEN,1,2))=2
            STORE VAL($(S:XMIT,3,3))+730-;
               VAL($(S:OPEN,3,3))+1 TO S:XMITDLAY
          ELSE
            STORE 999 TO S:XMITDLAY
          ENDIF
        ENDIF
      ELSE
        STORE VAL($(S:XMIT,3,3))-VAL($(S:OPEN,3,3))+1 ;
           TO S:XMITDLAY
      ENDIF
    ENDIF

*****  Calculate Time Span Frcm Letter Transmit to Item
*****  Manager Response

    IF S:RESPONSE <> '      '
      IF $(S:XMIT,1,2) < $(S:RESPONSE,1,2)
        IF VAL($(S:RESPONSE,1,2))-VAL($(S:XMIT,1,2))=1
          STORE VAL($(S:RESPONSE,3,3))+365-;
             VAL($(S:XMIT,3,3))+1 TO S:RESPDLAY
        ELSE
          IF VAL($(S:RESPCNSE,1,2)) - ;
              VAL($(S:XMIT,1,2)) = 2
            STCRE VAL($(S:RESPONSE,3,3))+730 - ;
                VAL($(S:XMIT,3,3))+1 TO S:RESPDLAY
          ELSE
            STCRE 999 TO S:RESPDLAY
          ENDIF
        ENDIF
      ELSE
        STORE VAL($(S:RESPCNSE,3,3))-VAL($(S:XMIT,3,3));
             + 1 TO S:RESPDLAY
      ENDIF
    ENDIF

*****  Calculate Time Span From Item Manager Response to
*****  Case Close

    IF S:CLOSE <> '      '
      IF $(S:RESPCNSE,1,2) < $(S:CLOSE,1,2)
        IF VAL($(S:CLOSE,1,2))-VAL($(S:RESPONSE,1,2))=1
          STORE VAL($(S:CLOSE,3,3))+365 - ;
             VAL($(S:RESPONSE,3,3))+1 TO S:CLOSDLAY
        ELSE
          IF VAL($(S:CLOSE,1,2)) - ;
             VAL($(S:RESPONSE,1,2)) = 2
            STORE VAL($(S:CLOSE,3,3))+730 - ;
             VAL($(S:RESPONSE,3,3))+1 TO S:CLCSDLAY
          ELSE
            STCRE 999 TO S:CLOSDLAY
          ENDIF
        ENDIF
      ELSE
```

```
            STORE VAL($(S:CLOSE,3,3)) -;
                  VAL($(S:RESPONSE,3,3))+1 TO S:CLOSDLAY
        ENDIF

*****   Calculate Time Span From Case Open to Case Close

        IF $(S:OPEN,1,2) < $(S:CLOSE,1,2)
            IF VAL($(S:CLOSE,1,2))-VAL($(S:OPEN,1,2)) = 1
                STORE VAL($(S:CLOSE,3,3)) + 365 - ;
                      VAL($(S:OPEN,3,3))+1 TO S:PROCDLAY
            ELSE
                IF VAL($(S:CLOSE,1,2))-VAL($(S:OPEN,1,2))=2
                    STORE VAL($(S:CLOSE,3,3)) + 730 - ;
                          VAL($(S:OPEN,3,3)) + 1 TO S:PROCDLAY
                ELSE
                    STORE 999 TO S:PROCDLAY
                ENDIF
            ENDIF
        ELSE
            STORE VAL($(S:CLOSE,3,3)) - VAL($(S:OPEN,3,3));
                 + 1 TO S:PROCDLAY
        ENDIF
    ENDIF
    SELECT SECONDARY
    USE D:QTIME INDEX D:QCASE

*****   Update Time Frame File With New Time Spans
*****   If a Record Does Not Exist For a Case, Create It

    FIND &S:CASE
    IF # = 0
        APPEND BLANK
        REPLACE CASE WITH S:CASE,WHO WITH S:WHO
        IF S:DATECHG <> 'N'
            STORE '9999' TO S:WHO
        ENDIF
    ENDIF
    IF S:DATECHG = 'N'
        STORE 1 TO S:ASSIGNED
        STORE 1 TO S:ACTIVE
    ENDIF

*****   Change Status From Active to Transmitted or
*****   Vice Versa

    IF S:XMITDLAY > 0 .AND. XMITDLAY = 0
        STORE S:ACTIVE - 1 TO S:ACTIVE
        STORE S:TRANSMIT + 1 TO S:TRANSMIT
    ELSE
        IF S:XMITDLAY = 0 .AND. XMITDLAY <> 0
            STORE S:ACTIVE + 1 TO S:ACTIVE
            STORE S:TRANSMIT - 1 TO S:TRANSMIT
        ENDIF
    ENDIF

*****   Change Status From Transmitted to Responded or
*****   Vice Versa

    IF S:RESPDLAY > 0 .AND. RESPDLAY = 0
        STORE S:TRANSMIT - 1 TO S:TRANSMIT
        STORE S:RESPOND + 1 TO S:RESPOND
    ELSE
        IF S:RESPDLAY = 0 .AND. RESPDLAY <> 0
            STORE S:TRANSMIT + 1 TO S:TRANSMIT
            STORE S:RESPOND - 1 TO S:RESPOND
        ENDIF
    ENDIF

*****   Change Status From Responded to Closed or
```

```
*****  Vice Versa

       IF S:CLOSDLAY > 0 .AND. CLOSDLAY = 0
          STORE S:RESPOND - 1 TO S:RESPOND
          STORE S:CLOSED + 1 TO S:CLOSED
       ELSE
          IF S:CLOSDLAY = 0 .AND. CLOSDLAY <> 0
             STORE S:RESPOND - 1 TO S:RESPOND
             STORE S:CLOSED + 1 TO S:CLOSED
          ENDIF
       ENDIF


*****  Update Time Span File

       REPLACE CASE WITH S:CASE,WHO WITH S:WHO,MAILDLAY ;
WITH S:MAILDLAY,XMITDLAY WITH S:XMITDLAY,RESPDLAY WITH ;
S:RESPDLAY,CLOSDLAY WITH S:CLOSDLAY,PROCDLAY WITH S:PROCDLAY

       SELECT SECONDARY
       USE D:TECHCODE INDEX D:TECH

*****  Update Techcode File

       FIND &S:WHO
       IF # <> 0
          REPLACE ASSIGNED WITH ASSIGNED + S:ASSIGNED,;
    ACTIVE WITH ACTIVE + S:ACTIVE,TRANSMIT WITH TRANSMIT ;
+ S:TRANSMIT,RESPOND WITH RESPOND+S:RESPOND,CLOSED WITH ;
CLOSED + S:CLOSED
       ENDIF
    ENDIF
       SELECT PRIMARY
       REPLACE DATES WITH $(DATES,1,45)+' '
       SKIP
    ENDDO
    SKIP
ENDDO

*****  Release All Local Memory Variables and All Files
*****  Used During Processing

SELECT PRIMARY
USE
SELECT SECONDARY
USE
RELEASE ALL LIKE S:*
RETURN

*****  END OF PROGRAM
```

XIV. JULIAN DATE CONVERSION MODULE

```
************************************************************************
**                                                                    **
**   Date: 18 October 1984                                            **
**   Version: 1.0                                                     **
**   Module Name: OJULIAN                                             **
**   Module Purpose: Convert Date (MMDDYY) to Julian                  **
**   Module Interface Definition                                      **
**      Inputs: V:MM,V:DD,V:YY                                        **
**      Outputs: V:JULDATE                                            **
**   Module Processing Narrative Description:                         **
**                                                                    **
**        Receives a date in MMDDYY format and converts               **
**        it to a Julian date and returns the date to                 **
**        the calling program.                                        **
**                                                                    **
**   Superordinate Modules: XOPEN2                                    **
**   Subordinate Modules: None                                        **
**   Author: J.G. BOYNTON                                             **
**                                                                    **
************************************************************************

DO CASE
   CASE V:MM = 01
      STORE V:DD TO V:DAY
   CASE V:MM = 02
      STORE V:DD + 31 TO V:DAY
   CASE V:MM = 03
      STORE V:DD + 59 TO V:DAY
   CASE V:MM = 04
      STORE V:DD + 90 TO V:DAY
   CASE V:MM = 05
      STORE V:DD + 120 TO V:DAY
   CASE V:MM = 06
      STORE V:DD + 151 TO V:DAY
   CASE V:MM = 07
      STORE V:DD + 181 TO V:DAY
   CASE V:MM = 08
      STORE V:DD + 212 TO V:DAY
   CASE V:MM = 09
      STORE V:DD + 243 TO V:DAY
   CASE V:MM = 10
      STORE V:DD + 273 TO V:DAY
   CASE V:MM = 11
      STORE V:DD + 304 TO V:DAY
   CASE V:MM = 12
      STORE V:DD + 334 TO V:DAY
ENDCASE
IF INT(V:YY/4)*4 = V:YY .AND. V:DAY >= 60
   IF V:MM= 02 .AND. V:DD= 29
     STORE V:DAY TO V:DAY
   ELSE
     STORE V:DAY + 1 TO V:DAY
   ENDIF
ENDIF
STORE V:YY * 1000 + V:DAY TO V:JULIAN
STORE STR(V:JULIAN,5) TO V:JULDATE
RETURN

***** END OF PROGRAM
```

XV. COG COUNT MODULE

```
************************************************************
**                                                        **
**   Date: 8 Jan  1984                                    **
**   Version: 1.0                                         **
**   Module Name: COGCNT                                  **
**   Module Purpose: Count the Active Cases Assigned to   **
**                   Any Given COG                        **
**                                                        **
**   Module Interface Definition                          **
**      Inputs: None                                      **
**      Outputs: None                                     **
**                                                        **
**   Module Processing Narrative Description:             **
**                                                        **
**         Indexes the OPEN1 File by COG and Counts       **
**         The Number of Cases Assigned To Each COG       **
**                                                        **
**   Superordinate Modules: UTILMENU                      **
**   Subordinate Modules: None                            **
**   Author: R. G. NICHOLS                                **
**                                                        **
************************************************************

*****  Display Warning Message and Accept Contine Request

ERASE
@  1,24 SAY '***** COG Count Processing *****'
@  3,24 SAY '* * * * * * * * * * * * * * * *  '
@  4,24 SAY '*                              *  '
@  5,24 SAY '*            WARNING           *  '
@  6,24 SAY '*                              *  '
@  7,24 SAY '*    This Program Will Read    *  '
@  8,24 SAY '*       All Records While      *  '
@  9,24 SAY '*          Processing          *  '
@ 10,24 SAY '*                              *  '
@ 11,24 SAY '*     If Existing Files Are    *  '
@ 12,24 SAY '*     Large, This Could Take   *  '
@ 13,24 SAY '*            Hours             *  '
@ 14,24 SAY '*                              *  '
@ 15,24 SAY '* * * * * * * * * * * * * * * *  '
@ 17,24 SAY '    Are You SURE You Want To'
@ 18,24 SAY '           Continue'
@ 19,24 SAY '        <Enter Y or N>' + CHR(7)
STORE ' ' TO CC:REPLY2
@ 21,40 GET CC:REPLY2
READ
DO WHILE !(CC:REPLY2) <> 'Y' .AND. !(CC:REPLY2) <> 'N'
   @ 23,32 SAY 'Enter Y or N Only' + CHR(7)
   @ 21,40 GET CC:REPLY2 PICTURE 'A'
   READ
ENDDO
@ 23,32 SAY '                   '
@ 17,40 SAY ' '

*****  Prompt For and Accept Password Verification

IF CC:REPLY2 = 'Y'
   @ 21,30 SAY 'Enter Your Password '
   STORE '          ' TO CC:PSWD
   SET CONSOLE OFF
   ACCEPT TO CC:PSWD
```

```
   SET CONSOLE ON
   IF CC:PSWD <> '        '
      USE D:TECHCODE INDEX D:TECH
      FIND &C:WHO
      IF PSWD <> CC:PSWD .OR. # = 0
         @ 23,18 SAY 'Request ABORTED - Strike Any Key To Continue'
         WAIT
         RELEASE ALL LIKE CC:*
         RETURN
      ENDIF
   ENDIF
ELSE
   RELEASE ALL LIKE CC:*
   RETURN
ENDIF


*****  Begin Statistics Update

ERASE
@ 12,20 SAY '       CCG STATISTICS BEING PROCESSED'
@ 14,20 SAY '              PLEASE STANDBY               '
@ 20,20 SAY '***** DO NOT INTERRUPT WHILE PROCESSING *****'


SELECT PRIMARY
USE D:OPEN1 INDEX D:CCGCNT
REINDEX
SELECT SECONDARY
USE D:COG INDEX D:COGS
REPLACE COUNT WITH 0 FOR COUNT <> 0
SELECT PRIMARY
GOTO 2

*****  Count the COGs Assigned Until End Of File Found

DO WHILE .NOT. EOF
   STORE CCG TO CC:CURRENT
   STORE 0 TO CC:COUNT

*****  Increment Counter Until a Different COG or End Of
*****  File Found

   DO WHILE COG = CC:CURRENT .AND. .NOT. EOF
      STORE CC:COUNT + 1 TO CC:COUNT
      SKIP
   ENDDO
   SELECT SECONDARY

*****  Update IM Record

   FIND &CC:CURRENT
   IF # <> 0
      REPLACE COUNT WITH CC:COUNT
   ENDIF
   SELECT PRIMARY
ENDDO
USE
SELECT SECONDARY
USE
RELEASE ALL LIKE CC:*
RETURN

***** END OF PROGRAM
```

XVI. BI-WEEKLY STATISTICS REPORT MODULE

```
*************************************************************
**                                                         **
**   DATE: 27 JANUARY 1984                                 **
**   VERSION: 1.0                                          **
**   MODULE NAME: XXBISTAT                                 **
**   MODULE PURPOSE: CALCULATE BI-WEEKLY STATISTICS        **
**   MODULE INTERFACE DEFINITION                           **
**      INPUTS: C:WHO, C;JULIAN                            **
**      OUTPUTS:                                           **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:              **
**                                                         **
**        ACCEPTS CLOSING DATE FOR THE REPORT IN MMDDYY    **
**        FORMAT. DATE IS CONVERTED TO JULIAN FORMAT BY    **
**        CALLING OJULIAN. DATES FOR PREVIOUS YEAR AND     **
**        OLDEST YEAR ARE CALCULATED AND STORED INTO       **
**        MEMORY VARIABLES. OPEN AND CLOSE DATABASES ARE   **
**        SEARCHED SEQUENTIALLY FOR ANY CASES WHICH WERE   **
**        OPENED OR CLOSED DURING THE PERIOD IN QUESTION.  **
**        THE BIWKSTAT DATABASE IS READ FOR THE COUNTS     **
**        OF THE LAST REPORT TO CALCULATE THE TREND, AND   **
**        THEN THE CURRENT COUNTS ARE PLACED INTO THE      **
**        BIWKSTAT DATABASE FOR FUTURE REFERENCE. THE      **
**        REPORT IS THEN PRINTED USING THE COUNTS FROM     **
**        THIS PROCESSING.  THE PROGRAM SHOULD BE RUN      **
**        IN BATCH, DURING 'OFF' HOURS, AND ONLY ON THE    **
**        SPECIFIC DAY FOR THE CUTOFF TO KEEP THE TREND    **
**        DATA REAL.                                       **
**   SUPERORDINATE MODULES: SUPRPTS                        **
**   SUBORDINATE MODULES: NONE                             **
**   AUTHOR: J.G. BOYNTON                                  **
**                                                         **
*************************************************************

***** INITIALIZATION OF VARIABLES

STORE '      ' TO BW:CURR
STORE '      ' TO BW:PREV
STORE '      ' TO BW:OLD
STORE 0 TO BW:CREC
STORE 0 TO BW:CCLOS
STORE 0 TO BW:C9COG
STORE 0 TO BW:CSPCC
STORE 0 TO BW:PREC
STORE 0 TO BW:PIN
STORE 0 TO BW:PCLOS
STORE 0 TO BW:P9COG
STORE 0 TO BW:PSPCC
STORE 0 TO BW:OREC
STORE 0 TO BW:OCLOS
STORE 0 TO BW:OCLOS
STORE 0 TO BW:O9COG
STORE 0 TO BW:OSPCC
STORE 0 TO BW:CRECC
STORE 0 TO BW:PRECC
STORE 0 TO BW:ORECC
STORE 0 TO BW:OPERR
STORE 0 TO BW:CERROR
STORE 0 TO BW:PERROR
STORE 0 TO BW:OERROR
```

```
***** THIS SEQUENCE CALCULATES THE UPPER AND LOWER YEARS
***** FOR INPUT AND IS BASED ON THE CURRENT JULIAN DATE
***** C:JULIAN. BW:LLIMIT= YEAR MINUS TWO YEARS
***** BW:ULIMIT = YEAR PLUS ONE YEAR

STORE $(C:JULIAN,1,2) TO TEMP1
STORE VAL(TEMP1) TO TEMP1A
STORE VAL('2') TC LOW
STORE VAL('1') TO HIGH
STORE TEMP1A-LOW TO LLMT
STORE TEMP1A+HIGH TO ULMT
STORE STR(LLMT,2) TO BW:LLIMIT
STORE STR(ULMT,2) TO BW:ULIMIT
RELEASE TEMP1,TEMP1A,LOW,HIGH,LLMT,ULMT

          STCRE '      ' TO BW:EDATE
          STORE T TO BW:CHOOSE
          ERASE
          DO WHILE BW:CHOOSE

              @ 10,20 SAY 'PLEASE ENTER THE CLOSING DATE'
              @ 11,20 SAY '   FOR THIS BIWEEKLY REPORT   '
              @ 12,20 SAY '          <MMDDYY>            '
              @ 14,30 GET BW:EDATE PICTURE '999999'
              READ
              IF $(BW:EDATE,1,2) <'01' ;
                 .OR. $(BW:EDATE,1,2)>'12';
                 .OR. $(BW:EDATE,3,2) <'01' ;
                 .OR. $(BW:EDATE,3,2)> '31' ;
                 .OR. $(BW:EDATE,5,2) < BW:LLIMIT ;
                 .OR. $(BW:EDATE,5,2)> BW:ULIMIT
                    @ 23,30 SAY 'DATE OUT OF RANGE'
              ELSE
                    STCRE F TO BW:CHOOSE
              ENDIF
          ENDDO<BW:CHCCSE>
          @ 23,30 SAY '                    '
          RELEASE BW:CHOOSE,BW:LLIMIT,BW:ULIMIT


***** CALCULATE THE DATES TO BE SEARCHED FOR AND ASSIGN
***** THEM TO THE VARABLES: BW:CURR,BW:PREV,BW:OLD

***** ENTER THE CALL TO C:OJULIAN TO CHANGE MMDDYY TO
***** JULIAN FORMAT

           STORE VAL($(BW:EDATE,1,2)) TO V:MM
           STORE VAL($(BW:EDATE,3,2)) TO V:DD
           STORE VAL($(BW:EDATE,5,2)) TO V:YY
           DC C:OJULIAN
           STORE V:JULDATE TC BW:CURR
           RELEASE ALL LIKE V:*

           STORE $(BW:CURR,1,2) TO BW:TYR
           STORE VAL(BW:TYR) TO BW:TYR3
           STORE BW:TYR3-1 TO BW:TYR1
           STORE BW:TYR3-2 TO BW:TYR2
           STORE STR(BW:TYR1,2) TO BW:PREVT
           STORE STR(BW:TYR2,2) TO BW:OLDT
           STORE BW:PREVT+$(BW:CURR,3,3) TO BW:PREV
           STORE BW:OLDT+$(BW:CURR,3,3) TO BW:OLD
           RELEASE BW:PREVT,BW:OLDT,BW:TYR,BW:TYR1,BW:TYR2

           ERASE
           @ 12,20 SAY ' BIWEEKLY STATUS REPORT IS BEING ';
                 +'PROCESSED'
           @ 14,20 SAY '             PLEASE STANDBY             '
           @ 23,20 SAY ' **** DO NOT INTERRUPT WHILE '
```

```
                +'PROCESSING ****'

***** END DATE CHANGE AND ASSIGNMENT HERE

      USE D:OPEN1

      DO WHILE .NOT. EOF
         STORE DATES TO M:DATES
         STORE COG TO M:COG

         STORE $(M:DATES,11,5) TO BW:ODAT
         STORE $(M:DATES,36,5) TO BW:CDAT
         IF $(BW:CDAT,1,2) = $(BW:CURR,1,2)
            STORE BW:CREC + 1 TO BW:CREC
            IF BW:CDAT <> '     '
               STORE BW:CCLOS + 1 TO BW:CCLOS
            ELSE
               IF $(M:COG,1,1) = '9'
                  STORE BW:C9COG + 1 TO BW:C9COG
               ELSE
                  STORE BW:CSPCC + 1 TO BW:CSPCC
               ENDIF
            ENDIF
         ENDIF < THIS CASE IN CURRENT YEAR COUNT>

         IF $(BW:ODAT,1,2) = $(BW:PREV,1,2)
            STORE BW:PREC + 1 TO BW:PREC
            IF BW:CDAT <> '     '
               STORE BW:PCLOS + 1 TO BW:PCLOS
            ELSE
               IF $(M:COG,1,1) = '9'
                  STORE BW:P9COG + 1 TO BW:P9COG
               ELSE
                  STORE BW:PSPCC + 1 TO BW:PSPCC
               ENDIF
            ENDIF
         ENDIF < THIS CASE IN PREVIOUS YEAR COUNT>

         IF $(BW:CDAT,1,2) = $(BW:OLD,1,2)
            STORE BW:OREC + 1 TO BW:OREC
            IF BW:CDAT <> '     '
               STORE BW:OCLOS + 1 TO BW:OCLOS
            ELSE
               IF $(M:COG,1,1) = '9'
                  STORE BW:O9COG + 1 TO BW:O9COG
               ELSE
                  STORE BW:OSPCC + 1 TO BW:OSPCC
               ENDIF
            ENDIF
         ENDIF < THIS CASE IN OLDEST YEAR COUNT>

         IF $(BW:CDAT,1,2)<>$(BW:CURR,1,2) .AND.;
            $(BW:CDAT,1,2)<>$(BW:PREV,1,2) .AND.;
            $(BW:CDAT,1,2)<>$(BW:OLD,1,2)
              STORE BW:OPERR + 1 TO BW:OPERR
         ENDIF

         SKIP

      ENDDO <SEARCH OF OPEN1.DBF >

***** END OF THE OPENFILE SEARCH, NOW FOR THE CLOSED FILES

      USE D:CLOSE1

      DO WHILE .NOT. EOF
         STORE DATES TO M:DATES
         STORE COG TO M:COG
```

```
    STORE $(M:DATES,11,5) TO BW:ODAT
    STORE $(M:DATES,36,5) TO BW:CDAT
    IF $(BW:ODAT,1,2) = $(BW:CURR,1,2)
        STORE BW:CRECC + 1 TO BW:CRECC
        IF BW:CDAT <> '     '
            STORE BW:CERROR + 1 TO BW:CERROR
        ENDIF
    ENDIF < THIS CASE IN CURRENT YEAR COUNT>

    IF $(BW:CDAT,1,2) = $(BW:PREV,1,2)
        STORE BW:PRECC + 1 TO BW:PRECC
        IF BW:CDAT <> '     '
            STORE BW:PERROR + 1 TO BW:PERROR
        ENDIF
    ENDIF < THIS CASE IN PREVIOUS YEAR COUNT>

    IF $(BW:CDAT,1,2) = $(BW:OLD,1,2)
        STORE BW:ORECC + 1 TO BW:ORECC
        IF BW:CDAT <> '     '
            STORE BW:OERROR + 1 TO BW:OERROR
        ENDIF
    ENDIF < THIS CASE IN OLDEST YEAR COUNT>
    SKIP

ENDDO <SEARCH OF CLOSE1.DBF >

STORE BW:C9CCG + BW:CSPCC TO BW:CTOT
STORE BW:P9CCG + BW:PSPCC TO BW:PTOT
STORE BW:O9CCG + BW:OSPCC TO BW:OTOT
STORE BW:OERROR+BW:PERROR+BW:CERROR TO BW:TERROR

STORE '19' + $(BW:CURR,1,2) TO BW:CYEAR
STORE '19' + $(BW:PREV,1,2) TO BW:PYEAR
STORE '19' + $(BW:OLD,1,2) TO BW:OYEAR

USE D:BIWKSTAT

STORE TOTALS TO BW:SCTOT
SKIP
STORE TOTALS TO BW:SPTOT
SKIP
STORE TOTALS TO BW:SOTOT

STORE '     ' TO BW:CLABEL
STORE '     ' TO BW:PLABEL
STORE '     ' TO BW:OLABEL

IF BW:SCTOT < BW:CTOT
     STORE 'UP' TO BW:CLABEL
ENDIF
IF BW:SCTOT > BW:CTOT
     STORE 'DOWN' TO BW:CLABEL
ENDIF
IF BW:SPTOT < BW:PTOT
    STORE 'UP' TO BW:PLABEL
ENDIF
IF BW:SPTOT > BW:PTOT
    STORE 'DOWN' TO BW:PLABEL
ENDIF
IF BW:SOTOT < BW:OTOT
    STORE 'UP' TO BW:OLABEL
ENDIF
IF BW:SCTOT > BW:OTOT
    STORE 'DOWN' TO BW:OLABEL
ENDIF

STORE BW:SOTOT-BW:OTOT TO BW:OTRD
STORE BW:SPTOT-BW:PTOT TO BW:PTRD
```

```
        STORE BW:SCTCT-BW:CTCT TO BW:CTRD

SET FORMAT TO PRINT

        @ 2,30  SAY '      CODE 9142 TECHNICAL BRANCH'
        @ 4,30  SAY '      QUALITY DEFICIENT MATERIAL'
        @ 6,30  SAY '         BIWEEKLY STATUS REPORT   '
        @ 8,30  SAY '               THRU'
        @ 8,47  SAY $(BW:EDATE,1,2)+'/'+$(BW:EDATE,3,2)+;
                '/'+$(BW:EDATE,5,2)
        @ 10,30 SAY '        JULIAN DATE'
        @ 10,50 SAY BW:CURR
        @ 12,10 SAY '                                                   '
                +'  SPCC     9-COG      TOTAL             '
        @ 13,10 SAY 'CALENDAR       CASES            CASES   '
                +'  CPEN       OPEN       OPEN        TREND'
        @ 14,10 SAY '    YEAR  RECEIVED          CLOSED      '
                +' CASES      CASES      CASES            '

        @ 18,13 SAY BW:OYEAR
        STCRE BW:OREC+BW:ORECC TO BW:TOREC
        @ 18,18 SAY BW:TOREC
        @ 18,30 SAY BW:ORECC
        @ 18,40 SAY BW:OSPCC
        @ 18,50 SAY BW:O9COG
        @ 18,60 SAY BW:OTOT
        @ 18,70 SAY BW:OTRD
        @ 18,80 SAY BW:OLABEL

        @ 20,13 SAY BW:PYEAR
        STCRE BW:PREC+BW:PRECC TO BW:TPREC
        @ 20,18 SAY BW:TPREC
        @ 20,30 SAY BW:PRECC
        @ 20,40 SAY BW:PSPCC
        @ 20,50 SAY BW:P9COG
        @ 20,60 SAY BW:PTOT
        @ 20,70 SAY BW:PTRD
        @ 20,80 SAY BW:PLABEL

        @ 22,13 SAY BW:CYEAR
        STCRE BW:CREC+BW:CRECC TO BW:TCREC
        @ 22,18 SAY BW:TCREC
        @ 22,30 SAY BW:CRECC
        @ 22,40 SAY BW:CSPCC
        @ 22,50 SAY BW:C9CCG
        @ 22,60 SAY BW:CTOT
        @ 22,70 SAY BW:CTRD
        @ 22,80 SAY BW:CLABEL

        @ 36,24 SAY '             CASE INPUT COMPARISON'
        @ 40,25 SAY   BW:PYEAR
        @ 40,40 SAY   BW:CYEAR
        @ 40,55 SAY 'TREND'
        STCRE BW:PREC+BW:PRECC TO BW:TPREC
        @ 42,18 SAY BW:TPREC
        @ 42,32 SAY BW:CREC
        STCRE '    ' TO BW:TLABEL
        IF BW:TPREC > BW:CREC
            STORE 'DCWN' TO BW:TLABEL
        ENDIF
        IF BW:TPREC < BW:CREC
            STORE 'UP' TO BW:TLABEL
        ENDIF
        STORE BW:CREC-BW:TPREC TO BW:TTRD
        @ 42,48 SAY BW:TTRD
        @ 42,59 SAY BW:TLABEL
EJECT

***** PAGE TWO
```

```
        STORE BW:CREC+BW:PREC+BW:OREC TO BW:TREC
        STORE BW:CRECC+BW:PRECC+BW:ORECC TO BW:TRECC

        @ 2,30 SAY '     CODE 9142 TECHNICAL BRANCH'
        @ 4,30 SAY '     QUALITY DEFICIENT MATERIAL'
        @ 6,30 SAY '       BIWEEKLY STATUS REPORT   '
        @ 8,30 SAY '            THRU'
        @ 8,47 SAY $(BW:EDATE,1,2)+'/'+$(BW:EDATE,3,2);
             +'/'+$(BW:EDATE,5,2)
        @ 10,33 SAY '       JULIAN DATE'
        @ 10,52 SAY BW:CURR

        @ 14,25 SAY 'TOTAL RECORDS ON OPEN FILE:'
        @ 14,70 SAY BW:TREC
        @ 16,25 SAY 'TOTAL RECORDS ON CLOSED FILES:'
        @ 16,70 SAY BW:TRECC
        @ 18,25 SAY 'RECORDS WITH INVALID DATES,OPEN FILE:'
        @ 18,69 SAY BW:OPERR - 1
        @ 20,25 SAY 'RECORDS WITH INVALID DATES,CLOSED '
                +'FILE:'
        @ 20,70 SAY BW:TERROR
        @ 28,40 SAY 'END OF REPORT'

EJECT
SET FORMAT TO SCREEN

***** STUFF NEW COUNTS INTO THE BIWKSTAT DATABASE

        USE D:BIWKSTAT.DBF
        REPLACE TOTALS WITH BW:CTRD
        SKIP
        REPLACE TOTALS WITH BW:PTRD
        SKIP
        REPLACE TOTALS WITH BW:OTRD

        RELEASE ALL LIKE BW:*
ERASE
RETURN

***** END OF PROGRAM
```

XVII. MONTHLY STATISTICS REPORT MODULE

```
******************************************************************
**                                                              **
**   DATE:  8 JANUARY 1984                                      **
**   VERSION: 1.0                                               **
**   MODULE NAME: XXMNSTAT                                      **
**   MODULE PURPOSE: CALCULATE MONTHLY STATISTICS REPORT        **
**   MODULE INTERFACE DEFINITION                                **
**      INPUTS:  C:WHC, C:JULIAN                                **
**      OUTPUTS: NONE                                           **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                   **
**                                                              **
**        ACCEPTS THE ENDING DATE AND THEN CALCULATES THE       **
**        JULIAN DATE FOR THIS YEAR AND THE PRIOR TWO           **
**        YEARS.  THE OPEN AND CLOSE DATA BASES ARE             **
**        SEARCHED SEQUENTIALLY TO FIND THE STATUS OF           **
**        EACH CASE IN THE DESIGNATED TIME PERIODS AND          **
**        COUNTS ARE SUMMARIZED INTO MEMORY VARIABLES.          **
**        AFTER PROCESSING, THE REPORTS ARE GENERATED TO        **
**        THE PRINTER.  THIS INCLUDES THE MONTHLY STATUS        **
**        REPORT BY YEAR, COMMAND KEY INDICATORS FOR            **
**        CURRENT YEAR, AND THE SUMMARY REPORT FOR THE          **
**        CURRENT YEAR.  THIS SHOULD BE DONE 'OFF' TIME         **
**        AND WHEN THE SYSTEM IS NOT BEING USED. OUTPUT         **
**        IS DIRECTED TO THE PRINTER.                           **
**        ERROR LISTING CAN BE RETREIVED IN D:MSBAD.TXT         **
**        BY 'TYPING' USING THE OPERATING SYSTEM.               **
**                                                              **
**   SUPERORDINATE MODULES: SUPRPTS                             **
**   SUBORDINATE MODULES: NONE                                  **
**   AUTHOR: J.G. BOYNTON                                       **
**                                                              **
******************************************************************

SET ALTERNATE TO D:MSBAD
STORE 1 TO MS:ROW

***** INITIALIZATION OF VARIABLES

STORE 0 TO MS:CRCVD
STORE 0 TO MS:OPTOT
STORE 0 TO MS:CLTOT
STORE 0 TO MS:OPERR
STORE 0 TO MS:CLERR


***** THIS SEQUENCE CALCULATES THE UPPER AND LOWER YEARS
***** FOR INPUT AND IS BASED ON THE CURRENT JULIAN DATE
***** C:JULIAN. MS:LLIMIT= YEAR MINUS TWO YEARS
***** MS:ULIMIT = YEAR PLUS ONE YEAR

STORE $(C:JULIAN,1,2) TO TEMP1
STORE VAL(TEMP1) TO TEMP1A
STORE VAL('2') TO LOW
STORE VAL('1') TC HIGH
STORE TEMP1A-LOW TO LLMT
STORE TEMP1A+HIGH TO ULMT
STORE STR(LLMT,2) TO MS:LLIMIT
STORE STR(ULMT,2) TO MS:ULIMIT
RELEASE TEMP1,TEMP1A,LOW,HIGH,LLMT,ULMT

***** INPUT OF REPORT CLOSING DATE
```

```
        STORE '      ' TO MS:EDATE
        STORE T TO MS:CHOOSE
        ERASE
        DO WHILE MS:CHOOSE
             @ 10,20 SAY 'PLEASE ENTER THE CLOSING DATE'
             @ 11,20 SAY '    FOR THIS MONTHLY REPORT   '
             @ 12,20 SAY '            <MMDDYY>          '
             @ 14,31 GET MS:EDATE PICTURE '999999'
             READ
             IF $(MS:EDATE,1,2) < '01' ;
                .OR. $(MS:EDATE,1,2) >'12' ;
                .OR. $(MS:EDATE,3,2) < '01' ;
                .OR. $(MS:EDATE,3,2) >'31' ;
                .OR. $(MS:EDATE,5,2) < MS:LLIMIT ;
                .OR.$(MS:EDATE,5,2)>MS:ULIMIT
                   @ 23,30 SAY ' DATE OUT OF RANGE'
             ELSE
                STORE F TO MS:CHOOSE
             ENDIF
        ENDDO <MS:CHCOSE>
        @ 23,30 SAY '                                  '
        RELEASE MS:CHOOSE,MS:LLIMIT,MS:ULIMIT

***** CALCULATE DATES TO BE SEARCHED FOR AND ASSIGNS THEM
***** TO VARIABLES


***** ENTER THE CALL TO C:OJULIAN TO CHANGE MMDDYY TO
***** JULIAN FORMAT

         STORE VAL($(MS:EDATE,1,2)) TO V:MM
         STORE VAL($(MS:EDATE,3,2)) TO V:DD
         STORE VAL($(MS:EDATE,5,2)) TO V:YY
         DO C:OJULIAN
         STORE V:JULDATE TO MS:CJUL


***** THIS CALCULATES THE JULIAN DATE OF THE FIRST DAY
***** OF THE MONTH OF INTEREST

         STORE VAL('01') TO V:DD
         DO C:OJULIAN
         STORE V:JULDATE TO MS:CJUL1

         STORE $(MS:CJUL,1,2) TO MS:TYR
         STORE VAL(MS:TYR) TO MS:TYR3
         STORE MS:TYR3-1 TO MS:TYR1
         STORE MS:TYR3-2 TO MS:TYR2
         STORE STR(MS:TYR1,2) TO MS:PREVT
         STORE STR(MS:TYR2,2) TO MS:OLDT
***** CALCULATE THE CALENDAR AND JULIAN DATES FOR THE
***** PREVIOUS YEAR

         STORE VAL($(MS:EDATE,1,2)) TO V:MM
         STORE VAL($(MS:EDATE,3,2)) TO V:DD
         STORE VAL(MS:PREVT) TO V:YY
         DO C:OJULIAN
         STORE V:JULDATE TO MS:PJUL

**** CALCULATES FIRST DAY OF MONTH IN PREVIOUS YEAR

         STORE VAL('01') TO V:DD
         DO C:OJULIAN
         STORE V:JULDATE TO MS:PJUL1

***** CALCULATES ENDDATE OF MONTH IN OLDEST YEAR

         STORE VAL($(MS:EDATE,1,2)) TO V:MM
```

```
        STORE VAL($(MS:EDATE,3,2)) TO V:DD
        STORE VAL(MS:OLDT) TO V:YY
        DC C:OJULIAN
        STORE V:JUIDATE TO MS:OJUL

***** CALCULATES FIRST DAY OF MONTH IN OLDEST YEAR

        STORE VAL('01') TO V:DD
        DC C:OJULIAN
        STORE V:JUIDATE TO MS:OJUL1

        RELEASE MS:PREVT,MS:OLDT,MS:TYR,MS:TYR1,MS:TYR2;
                MS:TYR3
        RELEASE ALL LIKE V:*


        ERASE
        @ 12,20 SAY ' MONTHLY STATUS REPORT IS BEING ;
                +'PROCESSED'
        @ 14,20 SAY '            PLEASE STANDBY       '
        @ 23,20 SAY '**** DO NOT INTERRUPT WHILE ;
                +'PROCESSING ****'

***** END DATE CHANGE AND ASSIGNMENT HERE


***** SEARCH THE OPEN DATABASE

       STORE 0 TO MS:CO1
       STORE 0 TO MS:CO2
       STORE 0 TO MS:CO3
       STORE 0 TO MS:CO4
       STORE 0 TO MS:PO1
       STORE 0 TO MS:PO2
       STORE 0 TO MS:PO3
       STORE 0 TO MS:PO4
       STORE 0 TO MS:OO1
       STORE 0 TO MS:OO2
       STORE 0 TO MS:OO3
       STORE 0 TO MS:OO4
       STORE 0 TO MS:PTOT
       STORE 0 TO MS:OTOT


       USE D:OPEN1

       DO WHILE .NOT. EOF
          STORE DATES TO M:DATES

          STORE $(M:DATES,11,5) TO MS:ODAT
          STORE $(M:DATES,36,5) TO MS:CDAT
***** IF CASE IS IN CURRENT YEAR

          IF $(MS:ODAT,1,2) = $(MS:CJUL,1,2)

             IF MS:CDAT > MS:CJUL1 .AND. MS:ODAT<MS:CJUL
                STORE MS:CRCVD + 1 TO MS:CRCVD

***** IF CASE IS STILL OPEN IT SHOULD BE IN THIS FILE

                IF MS:CDAT = '     '
                   STORE VAL($(MS:CJUL,3,3)) TO V:CDAT
                   STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                   STORE V:CDAT - V:ODAT TO V:TIMEN
                   STORE STR(V:TIMEN,3) TO MS:TIME
                   RELEASE ALL LIKE V:*

                   DO CASE
                      CASE MS:TIME < '61'
```

```
                        STORE MS:C01 + 1 TO MS:C01
                   CASE MS:TIME < '121'
                        STORE MS:C02 + 1 TO MS:C02
                   CASE MS:TIME < '181'
                        STORE MS:C03 + 1 TO MS:C03
                   CASE MS:TIME > '180'
                        STORE MS:C04 + 1 TO MS:C04
                ENDCASE
            ENDIF
        ENDIF
    ENDIF < CASE OPENED IN THE CURRENT YEAR >


***** IF CASE IS IN PREVIOUS YEAR

    IF $(MS:CDAT,1,2) = $(MS:PJUL,1,2)

        IF MS:ODAT > MS:PJUL1 .AND. MS:ODAT<MS:PJUL
             STORE MS:PTOT + 1 TO MS:PTOT

***** IF CASE IS STILL OPEN IT SHOULD BE IN THIS FILE

            IF MS:CDAT = '      '
                STORE VAL($(MS:PJUL,3,3)) TO V:CDAT
                STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                STORE V:CDAT - V:ODAT TO V:TIMEN
                STORE STR(V:TIMEN,3) TO MS:TIME
                RELEASE ALL LIKE V:*

                DO CASE
                   CASE MS:TIME < '61'
                        STORE MS:P01 + 1 TO MS:P01
                   CASE MS:TIME < '121'
                        STORE MS:P02 + 1 TO MS:P02
                   CASE MS:TIME < '181'
                        STORE MS:P03 + 1 TO MS:P03
                   CASE MS:TIME > '180'
                        STORE MS:P04 + 1 TO MS:P04
                ENDCASE
            ENDIF
        ENDIF
    ENDIF < CASE OPENED IN THE PREVIOUS YEAR >

***** IF CASE IS IN OLDEST YEAR

    IF $(MS:ODAT,1,2) = $(MS:OJUL,1,2)

        IF MS:ODAT > MS:OJUL1 .AND. MS:ODAT<MS:OJUL
             STORE MS:OTOT + 1 TO MS:OTOT

***** IF CASE IS STILL OPEN IT SHOULD BE IN THIS FILE

            IF MS:CDAT = '      '
                STORE VAL($(MS:OJUL,3,3)) TO V:CDAT
                STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                STORE V:CDAT - V:ODAT TO V:TIMEN
                STORE STR(V:TIMEN,3) TO MS:TIME
                RELEASE ALL LIKE V:*

                DO CASE
                   CASE MS:TIME < '61'
                        STORE MS:O01 + 1 TO MS:C01
                   CASE MS:TIME < '121'
                        STORE MS:O02 + 1 TO MS:C02
                   CASE MS:TIME < '181'
                        STORE MS:O03 + 1 TO MS:C03
                   CASE MS:TIME > '180'
                        STORE MS:O04 + 1 TO MS:C04
```

```
                  ENDCASE
              ENDIF
          ENDIF
      ENDIF < CASE OPENED IN THE OLDEST YEAR >

      IF $(MS:CDAT,1,2)<>$(MS:CJUL,1,2)  .AND.;
         $(MS:CDAT,1,2)<>$(MS:PJUL,1,2)  .AND.;
         $(MS:CDAT,1,2)<>$(MS:OJUL,1,2)
            STORE MS:OPERR + 1 TO MS:OPERR
            STORE CASE TO MS:CASE
             SET ALTERNATE ON
             ? MS:ROW,10 SAY 'OCASE'
             ? MS:ROW,18 SAY MS:CASE
             ? MS:ROW,30 SAY $(MS:ODAT,1,2)+'/';
               +$(MS:ODAT,3,2)+'/'+$(MS:ODAT,5,2)
             ? MS:ROW,40 SAY $(MS:CDAT,1,2)+'/'+;
               $(MS:CDAT,3,2)+'/'+$(MS:CDAT,5,2)
             STORE MS:ROW + 1 TO MS:ROW
             SET ALTERNATE OFF
      ENDIF

      STORE MS:OPTOT + 1 TO MS:OPTOT
      SKIP

   ENDDO < WHILE NOT EOF IN OPEN FILE >

***** START THE SEARCH AND COUNT IN THE CLOSED DATABASE

***** INITIALIZATION OF VARIABLES FOR CLOSED FILE

   STORE 0 TO MS:OCL1
   STORE 0 TO MS:OCL2
   STORE 0 TO MS:OCL3
   STORE 0 TO MS:OCL4
   STORE 0 TO MS:PCL1
   STORE 0 TO MS:PCL2
   STORE 0 TO MS:PCL3
   STORE 0 TO MS:PCL4
   STORE 0 TO MS:CCL1
   STORE 0 TO MS:CCL2
   STORE 0 TO MS:CCL3
   STORE 0 TO MS:CCL4

   USE D:CLOSE1

   DO WHILE .NOT. EOF
      STORE DATES TO M:DATES

      STORE $(M:DATES,11,5) TO MS:ODAT
      STORE $(M:DATES,36,5) TO MS:CDAT

      IF $(MS:CDAT,1,2) = $(MS:CJUL,1,2)

          IF MS:CDAT > MS:CJUL1 .AND. MS:CDAT<MS:CJUL
             STORE MS:CRCVD + 1 TO MS:CRCVD

              IF MS:CDAT <> '     '
                  STORE VAL($(MS:CDAT,3,3)) TO V:CDAT
                  STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                  STORE V:CDAT - V:ODAT TO V:TIMEN
                  STORE STR(V:TIMEN,3) TO MS:TIME
                  RELEASE ALL LIKE V:*

                  DO CASE
                     CASE MS:TIME < '61'
                               STORE MS:CCL1 + 1 TO MS:CCL1
                     CASE MS:TIME < '121'
```

```
                                STORE MS:CCL2 + 1 TO MS:CCL2
                           CASE MS:TIME < '181'
                                STORE MS:CCL3 + 1 TO MS:CCL3
                           CASE MS:TIME > '180'
                                STORE MS:CCL4 + 1 TO MS:CCL4
                        ENDCASE
                    ENDIF
                ENDIF
            ENDIF < CASE OPENED IN THE CURRENT YEAR >


***** IF CASE IS IN PREVIOUS YEAR

            IF $(MS:CDAT,1,2) = $(MS:PJUL,1,2)

                IF MS:CDAT > MS:PJUL1 .AND. MS:CDAT<MS:PJUL
                     STORE MS:PTOT + 1 TO MS:PTOT


                    IF MS:CDAT <> '      '
                        STORE VAL($(MS:CDAT,3,3)) TO V:CDAT
                        STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                        STORE V:CDAT - V:ODAT TO V:TIMEN
                        STORE STR(V:TIMEN,3) TO MS:TIME
                        RELEASE ALL LIKE V:*

                        DO CASE
                           CASE MS:TIME < '61'
                                STORE MS:PCL1 + 1 TO MS:PCL1
                           CASE MS:TIME < '121'
                                STORE MS:PCL2 + 1 TO MS:PCL2
                           CASE MS:TIME < '181'
                                STORE MS:PCL3 + 1 TO MS:PCL3
                           CASE MS:TIME > '180'
                                STORE MS:PCL4 + 1 TO MS:PCL4
                        ENDCASE
                    ENDIF
                ENDIF
            ENDIF < CASE CLOSED IN THE PREVIOUS YEAR >

***** IF CASE IS IN OLDEST YEAR

            IF $(MS:CDAT,1,2) = $(MS:OJUL,1,2)

                IF MS:CDAT > MS:OJUL1 .AND. MS:CDAT<MS:OJUL
                     STORE MS:OTOT + 1 TO MS:OTOT

***** IF CASE IS CLOSED < IT SHOULD BE TO BE IN THIS FILE >

                    IF MS:CDAT <> '      '
                        STORE VAL($(MS:CDAT,3,3)) TO V:CDAT
                        STORE VAL($(MS:ODAT,3,3)) TO V:ODAT
                        STORE V:CDAT - V:ODAT TO V:TIMEN
                        STORE STR(V:TIMEN,3) TO MS:TIME
                        RELEASE ALL LIKE V:*

                        DO CASE
                           CASE MS:TIME < '61'
                                STORE MS:OCL1 + 1 TO MS:OCL1
                           CASE MS:TIME < '121'
                                STORE MS:OCL2 + 1 TO MS:OCL2
                           CASE MS:TIME < '181'
                                STORE MS:OCL3 + 1 TO MS:OCL3
                           CASE MS:TIME > '180'
                                STORE MS:OCL4 + 1 TO MS:OCL4
                        ENDCASE
                    ENDIF
                ENDIF
```

```
          ENDIF < CASE CLOSED IN THE OLDEST YEAR >

          IF $(MS:CDAT,1,2)<>$(MS:CJUL,1,2) .AND.;
             $(MS:CDAT,1,2)<>$(MS:PJUL,1,2) .AND.;
             $(MS:CDAT,1,2)<>$(MS:OJUL,1,2)
                STORE MS:CLERR + 1 TO MS:CLERR
                STORE CASE TO MS:CASE
                 SET ALTERNATE ON
                 ? MS:ROW,10 SAY 'CCASE'
                 ? MS:ROW,18 SAY MS:CASE
                 ? MS:ROW,30 SAY $(MS:ODAT,1,2)+'/';
                   +$(MS:ODAT,3,2)+'/'+$(MS:ODAT,5,2)
                 ? MS:ROW,40 SAY $(MS:CDAT,1,2)+'/'+;
                   $(MS:CDAT,3,2)+'/'+$(MS:CDAT,5,2)
                 STORE MS:ROW + 1 TO ROW
                 SET ALTERNATE OFF

          ENDIF
          STORE MS:CLTOT + 1 TO MS:CLTOT

          SKIP

       ENDDO < SEARCH FOR CASE IN THE CLOSED FILE >
       RELEASE MS:CJUL1,MS:PJUL1,MS:OJUL1,M:DATES


***** DETERMINE WHICH MONTH IT IS FOR THE REPORT

       DO CASE
          CASE $(MS:EDATE,1,2)  = '01'
               STORE 'JANUARY' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '02'
               STORE 'FEBRUARY' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '03'
               STORE 'MARCH' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '04'
               STORE 'APRIL' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '05'
               STORE 'MAY' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '06'
               STORE 'JUNE' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '07'
               STORE 'JULY' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '08'
               STORE 'AUGUST' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '09'
               STORE 'SEPTEMBER' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '10'
               STORE 'OCTOBER' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '11'
               STORE 'NOVEMBER' TO MS:MONTH
          CASE $(MS:EDATE,1,2)  = '12'
               STORE 'DECEMBER' TO MS:MONTH
       ENDCASE

       STORE '19' + $(MS:OJUL,1,2) TO MS:OYR
       STORE '19' + $(MS:PJUL,1,2) TO MS:PYR
       STORE '19' + $(MS:CJUL,1,2) TO MS:CYR

       STORE MS:OCL1+MS:OCL2+MS:OCL3+MS:OCL4 TO MS:OCL5
       STORE MS:OO1 + MS:OO2 + MS:OO3 + MS:OO4 TO MS:OO5
       STORE MS:OO5+MS:OCL5 TO MS:OCASE

       STORE MS:PCL1+MS:PCL2+MS:PCL3+MS:PCL4 TO MS:PCL5
       STORE MS:PO1 + MS:PO2 + MS:PO3 + MS:PO4 TO MS:PO5
       STORE MS:PO5+MS:PCL5 TO MS:PCASE
```

```
          STORE MS:CCL1+MS:CCL2+MS:CCL3+MS:CCL4 TO MS:CCL5
          STORE MS:CO1 + MS:CO2 + MS:CO3 + MS:CO4 TO MS:CO5
          STORE MS:CO5+MS:CCL5 TO MS:CCASE

          STORE '0 TO 60 DAYS' TO MS:LBL1
          STORE '61 TO 120 DAYS' TO MS:LBL2
          STORE '121 TO 180 DAYS' TO MS:LBL3
          STORE '181 DAYS OR OVER' TO MS:LBL4
          STORE '         TOTALS:' TO MS:LBL5

SET FORMAT TO PRINT

          @ 2,25 SAY '     CODE 9142 TECHNICAL BRANCH'
          @ 3,25 SAY '     QUALITY DEFICIENT MATERIAL'
          @ 4,25 SAY '       MONTHLY STATUS REPORT   '
          @ 5,25 SAY '            THRU'
          @ 5,42 SAY $(MS:EDATE,1,2)+'/'+$(MS:EDATE,3,2);
                 +'/'+$(MS:EDATE,5,2)
          @ 7,28 SAY '     JULIAN DATE   '
          @ 7,48 SAY MS:CJUL
          @ 9,27 SAY '         MONTH OF'
          @ 9,44 SAY MS:MONTH
          @ 10,42 SAY MS:OYR
          @ 11,25 SAY 'TOTAL CASES'
          @ 11,40 SAY MS:OCASE
          @ 13,10 SAY '                                CLOSED';
                  +'         OPEN'
          @ 15,15 SAY MS:LBL1
          @ 15,33 SAY MS:OCL1
          @ 15,48 SAY MS:OO1
          @ 17,15 SAY MS:LBL2
          @ 17,33 SAY MS:OCL2
          @ 17,48 SAY MS:OO2
          @ 19,15 SAY MS:LBL3
          @ 19,33 SAY MS:OCL3
          @ 19,48 SAY MS:OO3
          @ 21,15 SAY MS:LBL4
          @ 21,33 SAY MS:OCL4
          @ 21,48 SAY MS:OO4
          @ 22,15 SAY MS:LBL5
          @ 22,33 SAY MS:OCL5
          @ 22,48 SAY MS:OO5

***** DATA FOR THE SECOND YEAR OUTPUT

          @ 25,42 SAY MS:PYR
          @ 27,25 SAY 'TOTAL CASES'
          @ 27,40 SAY MS:PCASE
          @ 29,10 SAY '                                CLOSED';
                  +'         OPEN'
          @ 31,15 SAY MS:LBL1
          @ 31,33 SAY MS:PCL1
          @ 31,48 SAY MS:PO1
          @ 33,15 SAY MS:LBL2
          @ 33,33 SAY MS:PCL2
          @ 33,48 SAY MS:PO2
          @ 35,15 SAY MS:LBL3
          @ 35,33 SAY MS:PCL3
          @ 35,48 SAY MS:PO3
          @ 37,15 SAY MS:LBL4
          @ 37,33 SAY MS:PCL4
          @ 37,48 SAY MS:PO4
          @ 39,15 SAY MS:LBL5
          @ 39,33 SAY MS:PCL5
          @ 39,48 SAY MS:PO5

***** DATA FOR THE CURRENT YEAR OUTPUT
```

```
          @ 42,42 SAY MS:CYR
          @ 44,25 SAY 'TOTAL CASES'
          @ 44,40 SAY MS:CCASE
          @ 46,10 SAY '                                    CLOSED';
                  +'          OPEN'
          @ 48,15 SAY MS:LBL1
          @ 48,33 SAY MS:CCL1
          @ 48,48 SAY MS:CO1
          @ 50,15 SAY MS:LBL2
          @ 50,33 SAY MS:CCL2
          @ 50,48 SAY MS:CO2
          @ 52,15 SAY MS:LBL3
          @ 52,33 SAY MS:CCL3
          @ 52,48 SAY MS:CO3
          @ 54,15 SAY MS:LBL4
          @ 54,33 SAY MS:CCL4
          @ 54,48 SAY MS:CO4
          @ 56,15 SAY MS:LBL5
          @ 56,33 SAY MS:CCL5
          @ 56,48 SAY MS:CO5
EJECT
***** SECOND PAGE OF REPORT

          @ 2,25  SAY '     CODE 9142 TECHNICAL BRANCH'
          @ 4,25  SAY '     QUALITY DEFICIENT MATERIAL'
          @ 6,25  SAY '        COMMAND KEY INDICATORS '
          @ 8,25  SAY '           AS OF'
          @ 8,42  SAY $(MS:EDATE,1,2)+'/'+$(MS:EDATE,3,2)+;
                  '/'+$(MS:EDATE,5,2)
          @ 10,25 SAY 'CASES RECEIVED IN'
          @ 10,44 SAY MS:MONTH
          @ 10,62 SAY MS:CYR +':'
          @ 10,72 SAY MS:CRCVD
          @ 12,10 SAY '                                    CLOSED';
                  +'          OPEN'
          @ 14,15 SAY MS:LBL1
          @ 14,33 SAY MS:CCL1
          @ 14,48 SAY MS:CO1
          @ 16,15 SAY MS:LBL2
          @ 16,33 SAY MS:CCL2
          @ 16,48 SAY MS:CO2
          @ 18,15 SAY MS:LBL3
          @ 18,33 SAY MS:CCL3
          @ 18,48 SAY MS:CO3
          @ 20,15 SAY MS:LBL4
          @ 20,33 SAY MS:CCL4
          @ 20,48 SAY MS:CO4
          @ 22,15 SAY MS:LBL5
          @ 22,33 SAY MS:CCL5
          @ 22,48 SAY MS:CO5

EJECT

***** THIRD PAGE OF REPORT

          @ 2,25  SAY '     CODE 9142 TECHNICAL BRANCH'
          @ 3,25  SAY '     QUALITY DEFICIENT MATERIAL'
          @ 4,25  SAY '        MONTHLY STATUS REPORT  '
          @ 5,25  SAY '             THRU'
          @ 5,42  SAY $(MS:EDATE,1,2)+'/'+$(MS:EDATE,3,2)+;
                  '/'+$(MS:EDATE,5,2)
          @ 7,28  SAY '      JULIAN DATE  '
          @ 7,48  SAY MS:CJUL
          @ 9,27  SAY '         MONTH OF'
          @ 9,44  SAY MS:MONTH
          @ 12,20 SAY 'TOTAL RECORDS ON OPEN FILE:'
          @ 12,64 SAY MS:OPTOT - 1
          @ 14,20 SAY 'TOTAL RECORDS ON CLOSED FILES:'
          @ 14,65 SAY MS:CLTOT
```

[illegible]

```
         @ 16,20 SAY 'RECORDS WITH INVALID DATES, OPEN ';
                 +'FILE:'
         @ 16,64 SAY MS:OPERR - 1
         @ 18,20 SAY 'RECORDS WITH INVALID DATES, CLOSED';
                +' FILE:'
         @ 18,65 SAY MS:CLERR
         @ 22,35 SAY 'END OF REPORT'
         SET ALTERNATE OFF
         SET ALTERNATE TO

EJECT
SET FORMAT TO SCREEN

         RELEASE ALL LIKE MS:*
ERASE
RETURN

***** END OF PROGRAM
```

XVIII. SORTED LISTING REPORT MENU

```
*****************************************************************
**                                                             **
**   DATE: 22 JANUARY 1984                                     **
**   VERSION: 1.0                                              **
**   MODULE NAME: SUPRPT2                                      **
**   MODULE PURPOSE: PROVIDE MENU OF SORTED LISTING            **
**                   REPORTS FOR THE SUPERVISOR                **
**                                                             **
**   MODULE INTERFACE DEFINITION                               **
**      INPUTS: C:WHO, C:JULIAN                                **
**      OUTPUTS: NONE                                          **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                  **
**                                                             **
**       DISPLAYS MENU FOR SUPERVISOR TO CHOOSE DESIRED        **
**       REPORT. CAUSES REINDEXING OF APPROPRIATE FILE         **
**       TO PRODUCE CURRENT VALUES FOR REPORT GENERATION       **
**       RESULTS ARE STORED ON D: DRIVE AS A 'TXT' FILE        **
**       FOR LATER ACCESS. REPORT MAY BE PRINTED BY USING      **
**       'TYPE' FUNCTION OF OPERATING SYSTEM.                  **
**       PROCESSING SHOULD BE ACCOMPLISHED DURING 'OFF'        **
**       TIME PERIOD.                                          **
**                                                             **
**   SUPERORDINATE MODULES: SUPMENU1                           **
**   SUBORDINATE MODULES: SUPRPT1,SUPRPT2,SUPRPT3,SUPRPT4      **
**   AUTHOR: J.G. BOYNTON                                      **
**                                                             **
*****************************************************************

STORE T TO C:TRUE
DO WHILE C:TRUE
ERASE
*
STORE ' ' TO V:CHOICE
TEXT

            *****    SORTED LISTING REPORTS AVAILABLE     *****


                      1 - OPEN FILE BY CASE AND ANALYST
                      2 - OPEN FILE BY ITEM MGR AND ANALYST
                      3 - OPEN FILE BY COG, SMIC, OPEN DATE
                      4 - CLOSED FILE BY CREDIT CODE, CASE
                      5 - EXIT


ENDTEXT
@ 19,40 GET V:CHOICE
READ
*
    IF V:CHOICE >='1' .AND. V:CHOICE < '5'
        ERASE
        @ 12,20 SAY ' THESE REPORTS WILL TAKE SOME TIME TO'
        @ 13,20 SAY ' GENERATE. IF YOU DECIDE TO CONTINUE'
        @ 14,20 SAY ' THE TERMINAL MAY NOT BE USED FOR ANY'
        @ 15,20 SAY ' OTHER PROCESSING UNTIL AFTER ';
                +'COMPLETION '
        @ 23,15 SAY 'PRESS  1 - TO ABORT, ANY OTHER KEY TO';
                +'      CONTINUE'
        WAIT TO V:BAIL
```

```
        IF V:BAIL ='1'
            RELEASE ALL LIKE V:*
            RELEASE C:TRUE
            RETURN
        ENDIF
    DO CASE
       CASE V:CHOICE = '1'
***** FILE D:SUPRPT1.TXT IS CREATED TO PROVIDE THE REPORT
***** D:SUPRPT1.NDX IS INDEXED ON WHO+CASE
              RELEASE ALL LIKE V:*
              USE D:OPEN1 INDEX D:SUPRPT1
              REINDEX
              GOTO TOP
              SKIP
              SET TALK OFF
              STORE 0 TO P:COUNT
              STORE 0 TO P:TOTAL
              SET FORMAT TO SCREEN
              ERASE
              SET ALTERNATE TO D:SUPRPT1
              SET ALTERNATE ON
              ?     'DATE: ',DATE()
              ?
              ?     '                                    ';
              +'                            *****       ';
              +'QDR OPEN FILE BY ANALYST & CASE   *****  '
              ?
              ?     '                         NSN / PART';
              +'                                      UNIT';
              +'    QTY           EXT    9                D';
              +'                          OPEN    SCREENING'
              ?     '   CASE';
              +' COG   SM  FSC NATO FIIN ';
              +'               CAT    NOMEN       UIC     ';
              +' UI       PRICE                   DEFNT   ';
              +'      PRICE    Q   ORG    DF   C          ';
              +'       CONTRACT NUMBER     DATE   CODE/DATE '
              ?
              STORE 0 TO P:PAGE
              STORE 5 TO ROW
              DO WHILE  .NOT. EOF
                  STORE P:TOTAL+1 TO P:TOTAL
                     ? '  ',CASE,' ',COG,' ',SM,' ',NSN,' ';
                     ,CAT,' ',$(NOMEN,1,9),'  ',UIC,' ',UI,;
                     ' ',UPRC,'  ',QTYDEF,'  ',EPRC,' ',09Q;
                     ,' ',ORG,' ',DEF,' ',DOC,' ',NUM,' ',;
                     $(DATES,11,5),' ',SCR,'/',$(DATES,21,5)
                      STORE ROW+1 TO ROW
                      SKIP
                      STORE P:COUNT+1 TO P:COUNT
                      IF ROW > 60
                          ERASE
                          ? CHR(12)
                          STORE 0 TO ROW
                          STORE P:PAGE+1 TO P:PAGE
                          ?
                          ?
                          ? '     PAGE  ',P:PAGE
                          ?
                          ?     '                        ';
                          +' NSN / PART';
                          +'                             ';
                          +'                UNIT         ';
                          +'QTY                          ';
                          +'           EXT    9          ';
                          +'                             ';
                          +' D                     OPEN  ';
                          +'SCREENING'
                          ?     '   CASE';
```

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```
                     +'                  COG    SM   ';
                     +' FSC                                ';
                     +'NATO FIIN   CAT     NOMEN            ';
                     +'UIC                                 ';
                     +'UI          PRICE        DEFNT        ';
                     +'                                    ';
                     +'PRICE      Q    ORG      DF     C  ';
                     +'CONTRACT NUMBER    DATE    CODE';
                     +'/DATE '
                     ?
                     STORE ROW+4 TO ROW
                 ENDIF <PAGE IS FULL>
        ENDDO
        ?
        ?
        ?
        ?
        ?   '      TOTAL CASES:',P:TOTAL
        ?
        ?
        ?   '   ******************************     ';
        +'END OF OPEN FILE REPORT BY ANALYST & CASE';
        +'   **********************************'
        ? CHR(12)
        SET ALTERNATE TO
        ? CHR(7)
        ? CHR(7)
        ERASE
        @ 12,20 SAY ' YOU MAY RECEIVE YOUR COG,OPEN';
                  +' FILE REPORT ON'
        @ 13,20 SAY '             D:SUPRPT1.TXT  '
        @ 20,20 SAY '     PRESS ANY KEY TO CONTINUE'
        WAIT
 CASE V:CHOICE = '2'

***** FILE D:SUPRPT2.TXT IS CREATED TO PROVIDE THE REPORT
***** D:SUPRPT2.NDX IS INDEXED ON ACTPT+WHO

        RELEASE ALL LIKE V:*
        USE D:OPEN1 INDEX D:SUPRPT2
        REINDEX
        GOTO TOP
        SKIP
        SET TALK OFF
        STORE 0 TO P:COUNT
        STORE 0 TO P:TOTAL
        SET FORMAT TO SCREEN
        ERASE
        SET ALTERNATE TO D:SUPRPT2
        SET ALTERNATE ON
        ?     'DATE: ',DATE()
        ?
        ?     '                                    ';
        +'                         *****      CDR';
        +' OPEN FILE BY                ITEM MANAGER &';
        +' ANALYST      ***** '
        ?
        ?     '                             NSN / PART';
        +'                                        ';
        +'                                        ';
        +'          UNIT                      QTY ';
        +'           EXT    9              D     ';
        +'                           OPEN     ';
        +'SCREENING'
        ?     '      CASE';
        +'           COG    SM   FSC NATO FIIN ';
        +'              CAT     NOMEN        UIC     ';
        +'UI         PRICE                DEFNT       ';
        +'    PRICE      Q    ORG     DF    C       ';
```

```
             +'     CCNTRACT NUMBER     DATE    CODE/DATE '
             ?
             STORE 0 TO P:PAGE
             STORE 5 TO ROW
             DO WHILE  .NOT. EOF
                 STCRE P:TOTAL+1 TO P:TOTAL
                     ? '  ',CASE,'  ',COG,'  ',SM,'  ',NSN,;
                      '  ',CAT,'  ',$(NOMEN,1,9),'   ',UIC,;
                     '  ',UI,'  ',UPRC,'   ',QTYDEF,'  ',;
                     EPRC,'  ',O9Q,'  ',ORG,'  ',DEF,'  ',DOC,;
                     '  ',NUM,'  ',$(DATES,11,5),'  ',SCR,'/';
                     ,$(DATES,21,5)
                     STORE ROW+1 TO ROW
                     SKIP
                     STORE P:COUNT+1 TO P:COUNT
                     IF ROW > 60
                         ERASE
                         ? CHR(12)
                         STORE 0 TO ROW
                         STORE P:PAGE+1 TO P:PAGE
                         ?
                         ?
                         ? '     PAGE  ',P:PAGE
                         ?
                         ?     '                         ';
                         +' NSN / PART';
                         +'                              ';
                         +'              UNIT          Q';
                         +'TY                            ';
                         +'       EXT    9              ';
                         +'                    D         ';
                         +'           OPEN   SCREENING'
                         ?     '   CASE';
                         +'                   COG    SM  ';
                         +'FSC     NATO FIIN  CAT     NOM';
                         +'EN       UIC                  ';
                         +' UI       PRICE        DEFNT  ';
                         +'   PRICE     Q   ORG      DF  ';
                         +'C  CONTRACT NUMBER     DATE   ';
                         +'CODE/DATE '
                         ?
                         STORE ROW+4 TO ROW
                     ENDIF <PAGE IS FULL>
             ENDDO
             ?
             ?
             ?
             ?
             ?    '     TOTAL CASES:',P:TOTAL
             ?
             ?
             ?    '  ****************************     ';
             +'END OF OPEN FILE REPORT BY ITEM MANAGER &';
             +'ANALYST  *********************************'
             ? CHR(12)
             SET ALTERNATE TO
             ? CHR(7)
             ? CHR(7)
             ERASE
             @ 12,20 SAY '  YOU MAY RECEIVE YOUR COG,OPEN';
                     +'  FILE REPORT ON'
             @ 13,20 SAY '            D:SUPRPT2.TXT  '
             @ 20,20 SAY '     PRESS ANY KEY TO CONTINUE'
             WAIT
      CASE V:CHOICE = '3'

***** FILE D:SUPRPT3.TXT IS CREATED TO PROVIDE THE REPORT
***** D:SUPRPT3.NDX IS INDEXED ON COG+SM+$(DATES,11,5)+CASE
```

```
RELEASE ALL LIKE V:*
USE D:CPEN1 INDEX D:SUPRPT3
REINDEX
GOTO TCP
SKIP
SET TAIK OFF
STORE 0 TO P:COUNT
STORE 0 TO P:TOTAL
SET FORMAT TO SCREEN
ERASE
SET ALTERNATE TO D:SUPRPT3
SET ALTERNATE ON
?      'DATE: ',DATE()
?
?      '                                    ';
+'           *****           QDR OPEN FILE BY ';
+'COG,SMIC,OPEN DATE & CASE     ***** '
?
?      '                         NSN / PART';
+'                                          ';
+'                                      UNIT';
+'       QTY           EXT    9           ';
+'  D   OPEN    SCREENING'
?      '   CASE';
+'                  COG   SM  FSC NATO FIIN ';
+'  CAT    NOMEN      UIC     UI       PRIC';
+'E        DEFNT       PRICE    Q   ORG   ';
+' DF   C CONTRACT NUMBER      DATE    CODE/';
+'DATE '
?
STCRE 0 TO P:PAGE
STORE 5 TO ROW
DO WHIIE  .NOT. EOF
    STORE P:TOTAL+1 TO P:TOTAL
        ? '  ',CASE,' ',COG,' ',SM,' ',NSN,;
        ' ',CAT,' ',$(NOMEN,1,9),'  ',UIC,' ';
        ,UI,' ',UPRC,'  ',QTYDEF,'  ',EPRC,;
        ' ',09Q,' ',ORG,' ',DEF,' ',DOC,' ';
        ,NUM,' ',$(DATES,11,5),' ',SCR,'/',;
        $(DATES,21,5)
        STORE ROW+1 TO ROW
        SKIP
        STORE P:COUNT+1 TO P:COUNT
        IF ROW > 60
            ERASE
            ? CHR(12)
            STORE 0 TO ROW
            STORE P:PAGE+1 TO P:PAGE
            ?
            ?
            ? '     PAGE  ',P:PAGE
            ?
            ?    '                         ';
            +'NSN / PART';
            +'                             ';
            +'                    UNIT     ';
            +'  QTY              EXT    9   ';
            +'              D               ';
            +'     OPEN    SCREENING'
            ?    '   CASE';
            +'                  COG   SM  FS';
            +'C NATO FIIN  CAT     NOMEN    ';
            +'  UIC     UI         PRICE    ';
            +'DEFNT          PRICE    Q   OR';
            +'G     DF             C  CONTRAC';
            +'T  NUMBER    DATE   CODE/DATE '
            ?
            STORE ROW+4 TO ROW
        ENDIF <PAGE IS FULL>
```

```
              ENDDO
              ?
              ?
              ?
              ?
              ?   '     TOTAL CASES:',P:TOTAL
              ?
              ?
              ?   '  ****** ***************************   E';
              +'ND OF OPEN FILE REPORT BY COG,SMIC,OPEN ';
              +'DATE & CASE   *****************************';
              +'*****'
              ? CHR(12)
              SET ALTERNATE TO
              ? CHR(7)
              ? CHR(7)
              ERASE
              @ 12,20 SAY ' YOU MAY RECEIVE YOUR COG,OPEN';
              +'FILE REPORT ON'
              @ 13,20 SAY '              D:SUPRPT3.TXT  '
              @ 20,20 SAY '     PRESS ANY KEY TO CONTINUE'
              WAIT

    CASE V:CHOICE = '4'

***** FILE D:SUPRPT4.TXT IS CREATED TO PROVIDE THE REPORT
***** D:SUPRPT4.NDX IS INDEXED ON CR+CASE

              RELEASE ALL LIKE V:*
              USE D:CLOSE1 INDEX D:SUPRPT4
              REINDEX
              GOTO TOP
              SKIP
              SET TALK OFF
              STORE 0 TO P:COUNT
              STORE 0 TO P:TOTAL
              SET FORMAT TO SCREEN
              ERASE
              SET ALTERNATE TO D:SUPRPT4
              SET ALTERNATE ON
              ?      'DATE: ',DATE()
              ?
              ?      '
                            *****          QDR CLOSED FILE BY ';
              +'CREDIT CODE & CASE         *****  '
              ?
              ?      '                         NSN / PART';
              +'                                             ';
              +'                                      UNIT';
              +'      QTY          EXT    9              ';
              +'  D   OPEN    SCREENING'
              ?      '   CASECOG   SM  FSC NATO FIIN     ';
              +'  CAT    NOMEN        UIC     UI        PRIC';
              +'E         DEFNT         PRICE     Q   CRG    ';
              +' DF   C CONTRACT NUMBER     DATE     CODE/';
              +'DATE '
              ?
              STORE C TO P:PAGE
              STCRE 5 TO ROW
              DO WHILE  .NOT. EOF
                  STCRE P:TOTAL+1 TO P:TOTAL
                      ? '  ',CASE,' ',COG,' ',SM,' ',NSN,;
                      ' ',CAT,' ',$(NOMEN,1,9),'  ',UIC,' ';
                      ,UI,' ',UPRC,'  ',QTYDEF,'  ',EPRC,;
                      ' ',O9Q,' ',ORG,' ',DEF,' ',DOC,' ';
                      ,NUM,' ',$(DATES,11,5),' ',SCR,'/',;
                      $(DATES,21,5)
                      STORE ROW+1 TO ROW
                      SKIP
```

```
                    STORE P:COUNT+1 TO P:COUNT
                    IF ROW > 60
                        ERASE
                        ? CHR(12)
                        STORE 0 TO ROW
                        STORE P:PAGE+1 TO P:PAGE
                        ?
                        ?
                        ? '      PAGE   ',P:PAGE
                        ?
                        ?   '                         ';
                        +'NSN / PART';
                        +'                          ';
                        +'                  UNIT    ';
                        +'  QTY            EXT    9  ';
                        +'              D            ';
                        +'      OPEN    SCREENING'
                        ?      '   CASE  COG    SM    FS';
                        +'C NATO FIIN   CAT     NOMEN    ';
                        +'  UIC      UI        PRICE    ';
                        +'DEFNT           PRICE      C   OR';
                        +'G      DF               C  CONTRAC';
                        +'T  NUMBER     DATE    CODE/DATE '
                        ?
                        STORE ROW+4 TO ROW
                    ENDIF <PAGE IS FULL>
            ENDDO
            ?
            ?
            ?
            ?
            ?   '      TOTAL CASES:',P:TOTAL
            ?
            ?
            ?   '   ****************************** ';
            +' END OF CLOSED FILE REPORT BY CREDIT CODE';
            +' & CASE  ***********************************'
            ? CHR(12)
            SET ALTERNATE TO
            ? CHR(7)
            ? CHR(7)
            ERASE
            @ 12,20 SAY ' YOU MAY RECEIVE YOUR REPORT BY';
                    +'   CREDIT CODE & CASE ON'
            @ 13,20 SAY '                D:SUPRPT4.TXT   '
            @ 20,20 SAY '      PRESS ANY KEY TO CONTINUE'
            WAIT
       CASE V:CHOICE = '5'
            RELEASE ALL LIKE V:*
            RELEASE C:TRUE
            RETURN
    ERASE
    ENDCASE

ELSE
    IF V:CHOICE='5'
        RELEASE ALL LIKE V:*
        RELEASE C:TRUE
        RETURN
    ELSE

        ?  '                  PLEASE ANSWER WITH A 1 - 5 ONLY'
        ?
        ? '                     PRESS ANY KEY TO CONTINUE'
        ?
        WAIT
    ENDIF
ENDIF <V:CHOICE>
ENDDO <C:TRUE>
```

```
RELEASE ALL LIKE V:*
RELEASE C:TRUE
RETURN

***** END OF PROGRAM
```

XIX. CASE REASIGNMENT MODULE

```
*******************************************************************
**                                                              **
**   DATE: 22 JANUARY 1984                                      **
**   VERSION: 1.0                                               **
**   MODULE NAME: C-REASGN                                      **
**   MODULE PURPOSE: REASSIGN CASE FROM ONE ANALYST TO          **
**                   ANOTHER                                    **
**   MODULE INTERFACE DEFINITION                                **
**      INPUTS: C:WHO, C:JULIAN                                 **
**      OUTPUTS:                                                **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                   **
**                                                              **
**      RECEIVES THE CASE NUMBER AND TWO ANALYSTS TO BE         **
**      INVOLVED IN THE TRANSFER. BEFORE TRANSFERING CASE       **
**      THE DATABASE IS CHECKED TO INSURE UPDATE OF             **
**      ANALYST STATISTICS. RETURNS FOR ANOTHER CASE TO         **
**      BE ASSIGNED OR FOR TERMINATION OF PROGRAM.              **
**                                                              **
**   SUPERORDINATE MODULES: UTILMENU                            **
**   SUBORDINATE MODULES: XDBHNDLR                              **
**   AUTHOR: J.G. BOYNTON                                       **
**                                                              **
*******************************************************************

STORE T TO R:CONTINUE
DO WHILE R:CONTINUE
   ERASE
   @ 6,24 SAY '***** CASE RE-ASSIGNMENT PROCESSING *****'
   @ 9,28 SAY '1 - RE-ASSIGN CASE TO ANOTHER ANALYST'
   @ 10,28 SAY '2 - RETURN TO UTILITY MENU'
   STORE ' ' TO R:REPLY
   @ 15,40 GET R:REPLY
   READ
   DO WHILE R:REPLY < '1' .OR. R:REPLY > '2'
      @ 23,32 SAY 'ENTER 1 - 2 ONLY' + CHR(7)
      @ 15,40 GET R:REPLY
      READ
   ENDDO
   DO CASE
      CASE R:REPLY = '2'
         RELEASE ALL LIKE R:*
         RETURN
      CASE R:REPLY = '1'
         STORE '         ' TO R:CASE
         ERASE
         @ 6,24  SAY 'ENTER DATA FOR CASE BEING RE-ASSIGNED'
         @ 9,32  SAY 'CASE NUMBER  ' GET R:CASE ;
                 PICTURE '999999X'
         READ
         STORE !(R:CASE) TO R:CASE
         STORE R:CASE TO M:KEY
         STORE '1E' TO M:TYPE
         DO XDBHNDLR.PRG
         IF M:TYPE ='1'
            @ 20,20 SAY 'CASE IS CURRENTLY LOCKED' + CHR(7)
            @ 22,20 SAY ' PRESS ANY KEY TO CONTINUE'
            WAIT
         ENDIF
         IF M:TYPE<> '1'
            IF M:TYPE = '9'
               @ 22,14 SAY 'CASE DOES NOT EXIST IN OPEN';
```

[illegible]

```
                         +'FILE - STRIKE ANY KEY TO CONTINUE';
                            + CHR(7)
                   WAIT
                ELSE
                   STORE '     ' TO R:NEW
                   STORE ' ' TO R:REPLY
                   DO WHILE R:REPLY
                      @ 11,10  SAY 'CASE NUMBER  '+  M:CASE
                      @ 11,32  SAY 'NSN   ' + $(M:NSN,1,4)+'-';
                               +$(M:NSN,5,2)+'-'+$(M:NSN,7,3);
                               +'-'+$(M:NSN,10,4)
                      @ 11,55  SAY 'COG ' + M:COG
                      @ 11,62  SAY 'CAT  ' + M:CAT
                      @ 14,10  SAY 'CURRENTLY ASSIGNED TO ' ;
                               + M:WHO
                      @ 15,10  SAY 'RE-ASSIGN TO             ';
                               GET R:NEW
                      READ
                      STORE ' ' TO R:REPLY
                      DO WHILE R:REPLY <'1' .OR. R:REPLY >'3'
                          @ 21,20 SAY '1 - RE-ASSIGN ';
                                  +' 2 - CHANGE  3 - EXIT'
                          @ 23,20 SAY '                ';
                                  GET R:REPLY
                          READ
                      ENDDO
                      IF R:REPLY ='3'
                          STORE '1G' TO M:TYPE
                          DO XDBHNDLR.PRG
                          RELEASE ALL EXCEPT C:*
                          RETURN
                      ENDIF
                      IF $(M:DATES,46,1)='*'
*                          DO STATISTICS UPDATE PROGRAM
                      ENDIF
                      IF R:REPLY='1'
                          ERASE
                          @ 10,20 SAY '***** PLEASE ';
                                  +'STANDBY *****'
                          @ 12,20 SAY 'CASE NUMBER   ' + M:CASE
                          @ 13,20 SAY 'IS BEING RE-ASSIGNED '
                          @ 15,20 SAY ' FROM    ' + M:WHO
                          @ 16,20 SAY ' TO      ' + R:NEW
                          @ 22,18 SAY ' *****  DO NOT ';
                                  +'INTERRUPT *****'
                          USE D:OPEN1 INDEX D:OCASE1,D:ONSN
                          STORE R:NEW TO M:WHO
                          STORE '1C' TO M:TYPE
                          DO XDBHNDLR.PRG
                          STORE M:CASE TO R:CASE
                          RELEASE ALL LIKE M:*
                          STORE R:CASE TO M:KEY
                          STORE '2E' TO M:TYPE
                          DO XDBHNDLR.PRG
                          STORE '2C'TO M:TYPE
                          STORE R:NEW TO M:WHO
                          DO XDBHNDLR.PRG
                          RELEASE ALL LIKE M:*
                          ERASE
                          STORE F TO R:REPLY
                       ENDIF
                   ENDDO <R:REPLY>
            ENDIF
     ENDCASE
ENDDO <CONTINUE>

***** END OF PROGRAM
```

XX. ITEM MANAGER FILE UPDATE

```
*****************************************************************
**                                                             **
**   DATE: 12 JAN 84                                           **
**   VERSION: 1.0                                              **
**   MODULE NAME: ADDRUPDT                                     **
**   MODULE PURPOSE:  ADD, UPDATE, OR DELETE ITEM MANAGER      **
**                    ADDRESS RECORDS                          **
**                                                             **
**   MODULE INTERFACE DEFINITION                               **
**      INPUTS: NONE                                           **
**      OUTPUTS: NONE                                          **
**                                                             **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                  **
**                                                             **
**         ALLOWS THE ADDITION, DELETION, OR UPDATING          **
**         OF ITEM MANAGER ADDRESS RECORDS.  ACCEPTS THE       **
**         ITEM MANAGER CODE, VALIDATES THE EXISTENCE OF       **
**         AN IM WHEN CREATING NEW RECORDS, ALLOWS THE         **
**         RECALL OF PREVIOUSLY DELETED RECORDS DURING         **
**         UPDATE, AND VERIFIES THAT NO ACTIVE COGS            **
**         ARE ASSIGNED TO A RECORD BEING DELETED.             **
**                                                             **
**   SUPERORDINATE MODULES: UTILMENU                           **
**   SUBORDINATE MODULES: NONE                                 **
**   AUTHOR: R. G. NICHOLS                                     **
**                                                             **
*****************************************************************

STORE T TO A:CONTINUE
DO WHILE A:CONTINUE

*****  DISPLAY SELECTION OPTIONS AND ACCEPT CHOICE
   ERASE
   @  6,18 SAY '***** ITEM MANAGER ADDRESS PROCESSING *****'
   @  9,28 SAY '1 - ADD ADDRESS'
   @ 10,28 SAY '2 - UPDATE ADDRESS'
   @ 11,28 SAY '3 - DELETE ADDRESS'
   @ 12,28 SAY '4 - RETURN TO UTILITY MENU'
   STORE ' ' TO A:REPLY
   @ 15,40 GET A:REPLY PICTURE '9'
   READ

*****  VALIDATE RESPONSE

   DO WHILE A:REPLY < '1' .OR. A:REPLY > '4'
      @ 23,32 SAY 'ENTER 1 - 4 ONLY' + CHR(7)
      @ 15,40 GET A:REPLY PICTURE '9'
      READ
   ENDDO
   DO CASE

*****  IF CHOICE IS QUIT, RELEASE ALL LOCAL MEMORY VARIABLES
*****  AND RETURN TO CALLING PROGRAM

      CASE A:REPLY = '4'
         RELEASE ALL LIKE A:*
         RETURN

*****  IF CHOICE IS ADD, PROMPT FOR ITEM MANAGER BEING ADDED

      CASE A:REPLY = '1'
```

```
          STORE '        ' TO A:IM
          ERASE
          @ 6,20  SAY 'ENTER DATA FOR ITEM MANGER BEING ADDED'
          @ 9,32  SAY 'ITEM MANAGER '  GET  A:IM
          READ
          STORE !(A:IM) TO A:IM
          SELECT PRIMARY
          USE D:ADDRESS INDEX D:IM

*****   CHECK FOR EXISTING IM RECORD

          FIND &A:IM
          IF # <> 0
             @ 22,14  SAY 'RECORD CURRENTLY EXISTS -';
                   +  'STRIKE ANY KEY TO CONTINUE' + CHR(7)
             WAIT
          ELSE
             STORE '                    ' TO A:TITLE
             STORE '                              ';
                 + '          ' TO A:COMMAND
             STORE '                              ';
                 + '          ' TO A:COMMAND2
             STORE '                   ' TO A:ATTN
             STORE '                        ' TO A:STREET
             STORE '                        ' TO A:CITY
             STORE '  ' TO A:STATE
             STORE '     ' TC A:ZIP

*****   PROMPT FOR AND ACCEPT NEW IM DATA

             @ 14,16  SAY 'TITLE       ' GET A:TITLE
             @ 15,16  SAY 'COMMAND     ' GET A:COMMAND
             @ 16,16  SAY 'COMMAND 2 ' GET A:COMMAND2
             @ 17,16  SAY 'ATTN        ' GET A:ATTN
             @ 18,16  SAY 'STREET      ' GET A:STREET
             @ 19,16  SAY 'CITY ' GET A:CITY
             @ 19,44  SAY ' STATE ' GET A:STATE
             @ 19,56  SAY 'ZIP CODE ' GET A:ZIP ;
                               PICTURE '99999'
             READ

*****   VERIFY POST OR EXIT

             @ 21,20  SAY '1 - POST NEW RECORD          ';
                      + '  2 - EXIT'
             STORE ' ' TO A:REPLY3
             @ 23,40  GET A:REPLY3 PICTURE '9'
             READ
             DO WHILE A:REPLY3 < '1' .OR. A:REPLY3 > '2'
                @ 23,40 GET A:REPLY3
                READ
             ENDDO

*****   CREATE NEW IM RECORD

             IF A:REPLY3 = '1'
                APPEND BLANK
                REPLACE IM WITH !(A:IM),TITLE WITH ;
!(A:TITLE),COMMAND WITH !(A:COMMAND),COMMAND2 WITH;
 !(A:COMMAND2),ATTN WITH !(A:ATTN),STREET WITH !(A:STREET),;
CITY WITH !(A:CITY),STATE WITH !(A:STATE),ZIP WITH A:ZIP
             ENDIF
          ENDIF

*****   IF CHOICE IS UPDATE

       CASE A:REPLY = '2'
          STORE '        ' TO A:IM
```

```
*****   REQUEST FOR AND ACCEPT IM TO BE UPDATED
          ERASE
          @ 6,19 SAY 'ENTER DATA FOR ITEM MANGER BEING ';
                + 'UPDATED'
          @ 9,32 SAY 'ITEM MANAGER ' GET A:IM
          READ
          STORE !(A:IM) TO A:IM
          SELECT PRIMARY

*****   RETREIVE IM RECORD BEING UPDATED

          USE D:ADDRESS INDEX D:IM
          FIND &A:IM
          IF # <> 0
             @ 22,17 SAY 'RECORD NOT FOUND ';
                + '- STRIKE ANY KEY TO CONTINUE'+CHR(7)
             WAIT
          ELSE
             STORE T TO A:PROCESS

*****   IF RECORD DELETED, PROMPT FOR REACTIVATION OPTION

             IF *
                STORE ' ' TO A:REPLY2
                @ 18,22 SAY 'RECORD HAS BEEN MARKED FOR ';
                        + 'DELETION'
                @ 19,17 SAY 'DO YOU WANT THIS RECORD ';
                        + 'REACTIVATED <Y OR N>'
                @ 21,40 GET A:REPLY2 PICTURE 'A'
                READ
                DO WHILE A:REPLY2<>'Y' .AND. A:REPLY2<>'N'
                   @ 23,31 SAY 'ENTER Y OR N ONLY' +CHR(7)
                   @ 21,40 GET A:REPLY2 PICTURE 'A'
                   READ
                ENDDO

*****   IF REACTIVATION REQUESTED

                IF !(A:REPLY2) = 'Y'
                   @ 18,22 SAY '                             ';
                           + '         '
                   @ 19,17 SAY '                             ';
                           + '                  '
                   @ 21,40 SAY ' '
                   RECALL
                ELSE
                   STORE F TO A:PROCESS
                ENDIF
             ENDIF

*****   PROMPT FOR AND ACCEPT UPDATE INFORMATION

             DO WHILE A:PROCESS
                STORE TITLE TO A:TITLE
                STORE COMMAND TO A:COMMAND
                STORE COMMAND2 TO A:COMMAND2
                STORE ATTN TO A:ATTN
                STORE STREET TO A:STREET
                STORE CITY TO A:CITY
                STORE STATE TO A:STATE
                STORE ZIP TO A:ZIP
                @ 14,16 SAY 'TITLE      ' GET TITLE
                @ 15,16 SAY 'COMMAND    ' GET COMMAND
                @ 16,16 SAY 'COMMAND2   ' GET COMMAND2
                @ 17,16 SAY 'ATTN       ' GET ATTN
                @ 18,16 SAY 'STREET     ' GET STREET
                @ 19,16 SAY 'CITY ' GET CITY
                @ 19,44 SAY ' STATE ' GET STATE
                @ 19,56 SAY 'ZIP CODE ' GET ZIP ;
```

```
                                  PICTURE '99999'
                  READ
                  @ 21,20 SAY '1 - POST UPDATED RECORD ';
                     + '       2 - EXIT'
                  STORE ' ' TO A:REPLY3
                  @ 23,40 GET A:REPLY3 PICTURE '9'

*****   PROVIDE UPDATE/EXIT OPTION

                  READ
                  DO WHILE A:REPLY3 < '1' .OR. A:REPLY3 > '2'
                     @ 23,40 GET A:REPLY3
                     READ
                  ENDDO

*****   IF UPDATE

                  IF A:REPLY3 <> '1'
                     REPLACE IM WITH !(A:IM),TITLE WITH ;
!(A:TITLE),COMMAND WITH !(A:COMMAND),COMMAND2 WITH ;
!(A:COMMAND2),ATTN WITH !(A:ATTN),STREET WITH !(A:STREET),;
 CITY WITH !(A:CITY), ZIP WITH A:ZIP
                  ENDIF
                  STORE F TO A:PROCESS
               ENDDO
            ENDIF

*****   IF CHOICE IS DELETE

         CASE A:REPLY = '3'
            STORE '         ' TO A:IM

*****   PROMPT FOR AND ACCEPT IM BEING DELETED

            ERASE
            @ 6,19  SAY 'ENTER DATA FOR ITEM MANGER BEING ';
                     + 'DELETED'
            @ 9,32  SAY 'ITEM MANAGER ' GET A:IM
            READ
            STORE !(A:IM) TO A:IM
            SELECT PRIMARY
            USE D:ADDRESS INDEX D:IM

*****   RETRIEVE RECORD BEING DELETED

            FIND &A:IM
            IF # <> 0
               @ 22,17 SAY 'RECORD NOT FOUND ';
                     + '- STRIKE ANY KEY TO CONTINUE'+CHR(7)
               WAIT
            ELSE

*****   IF ACTIVE COGS ARE ASSIGNED, DO NOT ALLOW DELETE

               IF COUNT > 0
                  @ 11,16 SAY 'TITLE       ' + TITLE
                  @ 12,16 SAY 'COMMAND     ' + COMMAND
                  @ 13,16 SAY 'CCMMAND 2   ' + COMMAND2
                  @ 14,16 SAY 'ATTN        ' + ATTN
                  @ 15,16 SAY 'STREET      ' + STREET
                  @ 16,16 SAY 'CITY '+CITY-' STATE '+STATE+;
                              '    '+'ZIP CODE ' + ZIP
                  @ 18,20 SAY 'ACTIVE COGS EXIST FOR THIS ';
                          + 'ITEM MANAGER'
                  @ 19,15 SAY 'ALL ACTIVE COGS MUST BE ';
                          + 'REASSIGNED TO ANOTHER I.M.'
                  @ 20,21 SAY 'BEFORE DELETE ACTION CAN BE';
                          + ' COMPLETED'
                  @ 22,27 SAY 'STRIKE ANY KEY TO CONTINUE';
```

```
                        + CHR(7)
                WAIT
             ELSE

*****   IF PREVIOUSLY DELETED, NOTIFY OPERATOR

                IF *
                   @ 23,13 SAY 'RECORD PREVIOUSLY DELETED ';
                     + '- STRIKE ANY KEY TO CONTINUE'+CHR(7)
                   WAIT
                ELSE
                   @ 11,16 SAY 'TITLE       ' + TITLE
                   @ 12,16 SAY 'COMMAND     ' + COMMAND
                   @ 13,16 SAY 'COMMAND 2   ' + COMMAND2
                   @ 14,16 SAY 'ATTN        ' + ATTN
                   @ 15,16 SAY 'STREET      ' + STREET
                   @ 16,16 SAY 'CITY '+CITY-' STATE '+STATE;
                               -'  '+'ZIP CODE ' + ZIP
                   @ 19,20 SAY '1 - DELETE THIS ITEM MANAGER
                           + '       2 - EXIT'
                   STORE ' ' TO A:REPLY2
                   @ 21,40 GET A:REPLY2 PICTURE '9'

*****   ACCEPT DELETE/EXIT OPTION

                   READ
                   DO WHILE A:REPLY2 < '1' .OR. A:REPLY2 > '2'
                      @ 23,40 GET A:REPLY2
                      READ
                   ENDDO

*****   IF DELETE REQUESTED

                   IF A:REPLY2 = '1'
                      DELETE
                   ENDIF
                ENDIF
             ENDIF
          ENDIF
   ENDCASE
   USE
ENDDO

***** END OF PROGRAM
```

XXI. COG FILE UPDATE MODULE

```
**********************************************************************
**                                                                  **
**   DATE: 18 JAN 1984                                              **
**   VERSION: 1.0                                                   **
**   MODULE NAME: COGUPDT                                           **
**   MODULE PURPOSE: ALLOWS ADDITION, DELETION, OR                  **
**                   UPDATING OF COG FILE                           **
**                                                                  **
**   MODULE INTERFACE DEFINITION                                    **
**      INPUTS: NONE                                                **
**      OUTPUTS: NONE                                               **
**                                                                  **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                       **
**                                                                  **
**         ACCEPTS NEW COG DATA, VERIFIES THAT THE NEW              **
**         COG IS NOT A DUPLICATE, AND VERIFIES THE                 **
**         EXISTENCE OF AN ITEM MANAGER RECORD.  ACCEPTS            **
**         UPDATE INFORMATION ON COG-ITEM MANAGER ASSIGN-           **
**         MENTS, VALIDATES THE EXISTENCE OF AN ITEM                **
**         MANAGER RECORD, AND UPDATES THE COG FILE.                **
**         PREVIOUSLY DELETED COGS MAY BE REACTIVATED               **
**         WITH THE UPDATE OPTION.  ACCEPTS THE COG TO              **
**         BE DELETED, VERIFIES THE RECORDS EXISTENCE,              **
**         AND VERIFIES THAT NO ACTIVE CASES EXIST FOR              **
**         THIS COG.                                                **
**                                                                  **
**   SUPERORDINATE MODULES: UTILMENU                                **
**   SUBORDINATE MODULES: NONE                                      **
**   AUTHOR: R. G. NICHOLS                                          **
**                                                                  **
**********************************************************************

* COGUPDT.PRG
* LAST UPDATE 18 JAN 84
*
STORE T TO G:CONTINUE
DO WHILE G:CONTINUE

*****  DISPLAY OPTIONS AND ACCEPT CHOICE

   ERASE
   @ 6,24 SAY '***** COG FILE PROCESSING *****'
   @ 9,28 SAY '1 - ADD COG'
   @ 10,28 SAY '2 - UPDATE COG'
   @ 11,28 SAY '3 - DELETE COG'
   @ 12,28 SAY '4 - RETURN TO UTILITY MENU'
   STORE ' ' TO G:REPLY
   @ 15,40 GET G:REPLY
   READ
   DO WHILE G:REPLY < '1' .OR. G:REPLY > '4'
      @ 23,32 SAY 'ENTER 1 - 4 ONLY' + CHR(7)
      @ 15,40 GET G:REPLY
      READ
   ENDDO
   DO CASE

*****  IF CHOICE IS TO QUIT, RELEASE LOCAL MEMORY VARIABLES
*****  AND RETURN TO CALLING PROGRAM

      CASE G:REPLY = '4'
         RELEASE ALL LIKE G:*
```

```
         RETURN
*****  IF CHOICE IS TO ADD, PROMPT FOR AND ACCEPT INPUT
      CASE G:REPLY = '1'
         STORE '          ' TO G:IM
         STORE '    ' TO G:COG
         ERASE
         @ 6,24  SAY 'ENTER DATA FOR COG BEING ADDED'
         @ 9,32  SAY 'COG              ' GET G:COG PICTURE '9A'
         READ
         STORE !(G:COG) TO G:COG
         SELECT PRIMARY
*****  CHECK FOR DUPLICATE RECORD
         USE D:COG INDEX D:COGS
         FIND &G:COG
         IF # <> 0
            @ 22,14 SAY 'RECORD CURRENTLY EXISTS ';
                 + '- STRIKE ANY KEY TO CONTINUE'+ CHR(7)
            WAIT
         ELSE
            STORE T TO G:GETIM
            DO WHILE G:GETIM
*****  PROMPT FOR AND ACCEPT ITEM MANAGER
               @ 10,32 SAY 'ITEM MANAGER ' GET G:IM
               SELECT SECONDARY
               USE D:ADDRESS INDEX D:IM
               READ
               STORE !(G:IM) TO G:IM
*****  CHECK TO SEE IF IM RECORD EXISTS
               FIND &G:IM
               IF # <> 0
                  STORE F TO G:GETIM
                  SELECT PRIMARY
                  APPEND BLANK
                  REPLACE COG WITH G:COG, IM WITH G:IM
               ELSE
*****  IF ITEM MANAGER NOT ON FILE PROVIDE OPTION TO
*****  CORRECT IM CODE, ADD THE IM RECORD OR EXIT WITHOUT
*****  UPDATE
                  @ 16,27 SAY 'ITEM MANAGER NOT ON FILE'
                  @ 18,30 SAY '1 - CHANGE I.M. CODE'
                  @ 19,30 SAY '2 - ADD ITEM MANAGER'
                  @ 20,30 SAY '3 - EXIT' + CHR(7)
                  STORE ' ' TO G:REPLY2
                  @ 23,40 GET G:REPLY2 PICTURE '9'
                  READ
                  DO WHILE G:REPLY2<'1' .OR. G:REPLY2>'3'
                     @ 23,40 GET G:REPLY2
                     READ
                  ENDDO
                  DO CASE
                     CASE G:REPLY2 = '1'
                        @ 16,27 SAY '                              ';
                               + '        '
                        @ 18,30 SAY '                              '
                        @ 19,30 SAY '                              '
                        @ 20,30 SAY '                 '
                        @ 23,40 SAY ' '
                     CASE G:REPLY2 = '2'
                        STORE F TO G:GETIM
```

```
                        STORE '                  ' ;
                            TO G:TITLE
                        STORE '                            ';
                            + '              ' TO G:COMMAND
                        STORE '                  ' TO;
                              G:TITLE
                        STORE '                            ';
                            + '             '  TO G:COMMAND2
                        STORE '               ' TO G:ATTN
                        STORE '                    ' ;
                              TO G:STREET
                        STORE '                    ' ;
                              TO G:CITY
                        STORE '  ' TO G:STATE
                        STORE '     ' TO G:ZIP
                        @ 16,27 SAY '                   ';
                                + '     '
                        @ 18,30 SAY '                           '
                        @ 19,30 SAY '                           '
                        @ 20,30 SAY '        '
                        @ 23,40 SAY ' '
                        @ 14,16 SAY 'TITLE      ' GET G:TITLE
                        @ 15,16 SAY 'COMMAND    ' GET ;
                                   G:COMMAND
                        @ 16,16 SAY 'COMMAND 2 ' GET ;
                                   G:COMMAND2
                        @ 17,16 SAY 'ATTN       ' GET ;
                                   G:ATTN
                        @ 18,16 SAY 'STREET     ' GET ;
                                   G:STREET
                        @ 19,16 SAY 'CITY ' GET G:CITY
                        @ 19,44 SAY ' STATE ' GET G:STATE
                        @ 19,56 SAY 'ZIP CODE ' GET G:ZIP;
                                   PICTURE '99999'
                        READ

*****  ACCEPT NEW IM DATA AND PROMPT FOR CREATE/EXIT OPTION

                        @ 21,20 SAY '1 - POST NEW RECORD';
                           + '            2 - EXIT'
                        STORE ' ' TO G:REPLY3
                        @ 23,40 GET G:REPLY3 PICTURE '9'
                        READ
                        DO WHILE G:REPLY3 < '1' .OR.;
                                G:REPLY3 > '2'
                           @ 23,40 GET G:REPLY3
                           READ
                        ENDDO

*****  CREATE A NEW RECORD

                        IF G:REPLY3 = '1'
                           SELECT PRIMARY
                           APPEND BLANK
                           REPLACE COG WITH G:COG,;
                                   IM WITH G:IM
                           SELECT SECONDARY
                           APPEND BLANK
                           REPLACE IM WITH !(G:IM),TITLE;
 WITH !(G:TITLE),COMMAND WITH !(G:COMMAND),COMMAND2 WITH;
 !(G:CCMMAND2),ATTN WITH !(G:ATTN),STREET WITH !(G:STREET),;
CITY WITH !(G:CITY), ZIP WITH G:ZIP
                        ELSE
                           STORE F TO G:GETIM
                        ENDIF

*****  EXIT WITHOUT CREATING RECORD

                     CASE G:REPLY2 = '3'
```

```
                    STORE F TO G:GETIM
                 ENDCASE
              ENDIF
           ENDDO
         ENDIF

*****   IF CHOICE IS TO UPDATE

      CASE G:REPLY = '2'
         STORE '         ' TO G:IM
         STORE '    ' TO G:COG

*****   PROMPT FOR AND ACCEPT COG BEING UPDATED

         ERASE
         @ 6,24  SAY 'ENTER DATA FOR COG BEING UPDATED'
         @ 9,32  SAY 'COG                ' GET G:COG PICTURE '9A'
         READ
         STORE !(G:COG) TO G:COG
         SELECT PRIMARY

*****   RETREIVE RECORD TO BE UPDATED

         USE D:COG INDEX D:COGS
         FIND &G:COG
         IF # = 0
            @ 22,17 SAY 'RECORD NOT FOUND ';
               + '- STRIKE ANY KEY TO CONTINUE' + CHR(7)
            WAIT
         ELSE
            STORE T TO G:PROCESS

*****   IF RECORD DELETED PROMPT FOR REACTIVATION

            IF *
               STORE ' ' TO G:REPLY3
               @ 18,22 SAY 'RECORD HAS BEEN MARKED FOR';
                       + ' DELETION '
               @ 19,19 SAY 'DO YOU WANT THIS COG ';
                       + 'REACTIVATED <Y OR N>'
               @ 21,40 GET G:REPLY3 PICTURE 'A'
               READ
               DO WHILE !(G:REPLY3) <> 'Y' .AND. !(G:REPLY3) <> 'N'
                  @ 23,31 SAY 'ENTER Y OR N ONLY' + CHR(7)
                  @ 21,40 GET G:REPLY3 PICTURE 'A'
                  READ
               ENDDO

*****   REACTIVATE RECORD IF REQUESTED

               IF !(G:REPLY3) = 'Y'
                  @ 18,22 SAY '                                  ';
                          + '                    '
                  @ 19,19 SAY '                                  ';
                          + '                         '
                  @ 21,40 SAY ' '
                  RECALL
               ELSE
                  STORE F TO G:PROCESS
               ENDIF
            ENDIF
            DO WHILE G:PROCESS
               STORE IM TO G:IM

*****   PROMPT FOR AND ACCEPT UPDATE INFORMATION

               @ 10,32 SAY 'ITEM MANAGER ' GET IM
               READ
               @ 21,20 SAY '1 - POST UPDATE INFORMATION';
```

```
                     + '        2 - EXIT'
               STORE ' ' TO G:REPLY3
               @ 23,40 GET G:REPLY3 PICTURE '9'

*****   ACCEPT UPDATE/EXIT SELECTION

               READ
               DO WHILE G:REPLY3 < '1' .OR. G:REPLY3 > '2'
                  @ 23,40 GET G:REPLY3
                  READ
               ENDDO

*****   IF EXIT WITHOUT UPDATE, RESTORE RECORD TO ORIGINAL
*****   VALUE

               IF G:REPLY3 <> '1'
                  REPLACE IM WITH G:IM
               ENDIF
               USE
               STORE F TO G:PROCESS
            ENDDO
         ENDIF

*****   IF CHOICE IS TO DELETE

       CASE G:REPLY = '3'
          STORE '        ' TO G:IM
          STORE '    ' TO G:COG

*****   PROMPT FOR AND ACCEPT COG BEING DELETED

          ERASE
          @ 6,28  SAY 'ENTER COG BEING DELETED'
          @ 9,32  SAY 'COG              ' GET G:COG PICTURE '9A'
          READ
          STORE !(G:COG) TO G:COG
          SELECT PRIMARY
          USE D:COG INDEX D:COGS

*****   VERIFY COGS EXISTENCE

          FIND &G:COG
          IF # = 0
             @ 22,17 SAY 'RECORD NOT FOUND ';
                 + '- STRIKE ANY KEY TO CONTINUE' + CHR(7)
             WAIT
          ELSE

*****   VERIFY THAT NO ACTIVE CASES ARE ASSIGNED TO THIS COG

            IF COUNT > 0
               @ 10,32 SAY 'ITEM MANAGER ' + IM
               @ 13,25 SAY 'ACTIVE CASES EXIST FOR THIS COG'
               @ 14,15 SAY 'ALL ACTIVE CASES MUST BE ';
                       + 'REASSIGNED TO ANOTHER COG'
               @ 15,21 SAY 'BEFORE DELETE ACTION CAN BE ';
                       + 'COMPLETED'
               @ 18,27 SAY 'STRIKE ANY KEY TO CONTINUE' ;
                       + CHR(7)
               WAIT
            ELSE

*****   NOTIFY OPERATOR THAT RECORD PREVIOUSLY DELETED

               IF *
                  @ 23,13 SAY 'RECORD PREVIOUSLY DELETED - ';
                        + 'STRIKE ANY KEY TO CONTINUE'
                  WAIT
               ELSE
```

```
                    @ 10,32 SAY 'ITEM MANAGER ' + IM
                    @ 17,20 SAY '1 - DELETE THIS COG';
                        + '                2 - EXIT'
                    STORE ' ' TO G:REPLY3
                    @ 19,40 GET G:REPLY3 PICTURE '9'

*****  ACCEPT DELETE/EXIT SELECTION

                    READ
                    DO WHILE G:REPLY3 < '1' .OR. G:REPLY3 > '2'
                       @ 23,32 SAY 'ENTER 1 - 2 ONLY' + CHR(7)
                       @ 19,40 GET G:REPLY3
                       READ
                    ENDDO
                    IF G:REPLY3 = '1'
                       DELETE
                       USE
                    ENDIF
                 ENDIF
              ENDIF
           ENDIF
   ENDCASE
   USE
ENDDO

***** END OF PROGRAM
```

XXII. DATA BASE PACK MODULE

```
************************************************************
**                                                        **
**   DATE: 15 JAN 1984                                    **
**   VERSION: 1.0                                         **
**   MODULE NAME: DBPACK                                  **
**   MODULE PURPOSE: PACK THE DATA BASE AND REMOVE        **
**                   RECORDS TAGGED FOR DELETION          **
**                                                        **
**   MODULE INTERFACE DEFINITION                          **
**      INPUTS: C:WHO                                     **
**      OUTPUTS: NONE                                     **
**                                                        **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:             **
**         COMPRESSES THE DATA BASES BY REMOVING RECORDS  **
**         MARKED FOR DELETION.  PRIOR TO EXECUTION, THE  **
**         USERS PASSWORD IS VERIFIED TO ENSURE THAT HE   **
**         IS AUTHORIZED TO PERFORM THE PACK.             **
**                                                        **
**   SUPERORDINATE MODULES: UTILMENU                      **
**   SUBORDINATE MODULES: NONE                            **
**   AUTHOR: R. G. NICHOLS                                **
**                                                        **
************************************************************

*****  DISPLAY WARNING MESSAGE

         ERASE
         @  1,25 SAY '***** DATA BASE PACKING *****'
         @  3,24 SAY '* * * * * * * * * * * * * * * *'
         @  4,24 SAY '*                             *'
         @  5,24 SAY '*           WARNING           *'
         @  6,24 SAY '*                             *'
         @  7,24 SAY '*    THIS PROGRAM WILL PACK   *'
         @  8,24 SAY '*  ALL DELETED CASES AND THEN *'
         @  9,24 SAY '*   WILL RE-INDEX THE FILES   *'
         @ 10,24 SAY '*                             *'
         @ 11,24 SAY '*  IF EXISTING FILES ARE      *'
         @ 12,24 SAY '*  LARGE, THIS COULD TAKE     *'
         @ 13,24 SAY '*           HOURS             *'
         @ 14,24 SAY '*                             *'
         @ 15,24 SAY '* * * * * * * * * * * * * * * *'
         @ 17,24 SAY '    ARE YOU SURE YOU WANT TO'
         @ 18,24 SAY '           CONTINUE'
         @ 19,24 SAY '        <ENTER Y OR N>' + CHR(7)
         STORE ' ' TO P:REPLY2
         @ 21,40 GET P:REPLY2

*****  ACCEPT RESPONSE FROM USER

         READ
         DO WHILE !(P:REPLY2)<>'Y' .AND. !(P:REPLY2)<>'N'
            @ 23,32 SAY 'ENTER Y OR N ONLY' + CHR(7)
            @ 21,40 GET P:REPLY2 PICTURE 'A'
            READ
         ENDDO
         @ 23,32 SAY '                   '
         @ 17,40 SAY ' '

***** ACCEPT AND VERIFY PASSWORD PRIOR TO EXECUTION
```

```
         IF P:REPLY2 = 'Y'
            @ 21,30 SAY 'ENTER YOUR PASSWORD '
            STORE '          ' TO P:PASSWORD
            SET CONSOLE OFF
            ACCEPT TO P:PASSWORD
            SET CONSOLE ON
            IF P:PASSWORD <> '          '
               USE D:TECHCODE INDEX D:TECH
               FIND &C:WHO
               IF PSWD = P:PASSWORD .AND. # <> 0

*****   DISPLAY PROCESSING MESSAGE

                  ERASE
                  @ 6,26 SAY ' OPEN DATA BASE BEING PURGED'
                  @ 8,32 SAY 'OF CLOSED CASES'
                  @ 16,29 SAY '***** DO NOT INTERRUPT *****'
                  USE D:OPEN1 INDEX D:OCASE1, D:ONSN
                  PACK
                  USE D:OPEN2 INDEX D:OCASE2
                  PACK
               ELSE
                  @ 23,18 SAY 'REQUEST ABORTED ';
                      + '- STRIKE ANY KEY TO CONTINUE'
                  WAIT
               ENDIF
            ENDIF
         ENDIF
         USE
         RELEASE ALL LIKE P:*
         RETURN

***** END OF PROGRAM
```

XXIII. ANALYST FILE UPDATE MODULE

```
************************************************************
**                                                        **
**   DATE: 15 JAN 1984                                    **
**   VERSION: 1.0                                         **
**   MODULE NAME: ANALYST                                 **
**   MODULE PURPOSE: TO ADD, UPDATE, DELETE, AND LIST     **
**                   ANALYST INFORMATION                  **
**                                                        **
**   MODULE INTERFACE DEFINITION                          **
**      INPUTS: NONE                                      **
**      OUTPUTS: NONE                                     **
**                                                        **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:             **
**         PROVIDE CAPABILITY TO ADD NEW ANALYST CODES,   **
**         UPDATE EXISTING ANALYST RECORDS, DELETE        **
**         ANALYST RECORDS, OR DISPLAY ANALYST RECORDS.   **
**         NEW ANALYST IDS ARE VALIDATED TO ENSURE THAT   **
**         DUPLICATE RECORDS ARE NOT CREATED AND THAT NO  **
**         EMBEDDED BLANKS APPEAR IN THE ID.  DELETED     **
**         ANALYST RECORDS MAY BE RECALLED BY UPDATING    **
**         THE RECORD.  PRIOR TO DELETION OF A RECORD,    **
**         THE ANALYST IS VERIFIED TO HAVE NO ACTIVE      **
**         CASES ASSIGNED.                                **
**                                                        **
**   SUPERORDINATE MODULES: UTILMENU                      **
**   SUBORDINATE MODULES: NONE                            **
**   AUTHOR: R. G. NICHOLS                                **
**                                                        **
************************************************************

STORE T TO A:CONTINUE
DO WHILE A:CONTINUE

*****  DISPLAY OPTIONS AVAILABLE TO THE USER AND ACCEPT
*****  SELECTION

   ERASE
   @ 6,25 SAY '  ***** ANALYST FILE UPDATE *****'
   @ 9,28 SAY '1 - ADD ANALYST'
   @ 10,28 SAY '2 - UPDATE ANALYST'
   @ 11,28 SAY '3 - DELETE ANALYST'
   @ 12,28 SAY '4 - LIST ANALYST'
   @ 13,28 SAY '5 - RETURN TO UTILITY MENU'
   STORE ' ' TO A:REPLY
   @ 16,40 GET A:REPLY PICTURE '9'
   READ

***** VALIDATE SELECTION

   DO WHILE A:REPLY < '1' .OR. A:REPLY > '5'
      @ 23,32 SAY 'ENTER 1 - 5 ONLY' + CHR(7)
      @ 16,40 GET A:REPLY PICTURE '9'
      READ
   ENDDO
   DO CASE

*****  IF QUIT REQUEST, RELEASE LOCAL MEMORY VARIABLES AND
*****  RETURN TO CALLING PROGRAM

      CASE A:REPLY = '5'
         RELEASE ALL LIKE A:*
```

```
        RETURN

*****   IF ADD NEW ANALYST SELECTED

      CASE A:REPLY = '1'
        STORE '    ' TO A:TECHCODE
        STORE '        ' TO A:PASSWORD
        STORE '                    ' TO A:NAME

*****   CLEAR SCREEN AND PROMPT FOR NEW ANALYST INFORMATION

        ERASE
        @ 6,22 SAY 'ENTER DATA FOR ANALYST BEING ADDED'
        @ 7,22 SAY '   FOLLOW EACH ENTRY WITH A <CR>'
        @ 10,28 SAY 'ANALYST CODE     ' GET A:TECHCODE
        READ

*****   VALIDATE NO EMBEDDED BLANKS

        DO WHILE $(A:TECHCODE,1,1)=' ' .OR.;
           $(A:TECHCODE,2,1)=' ' .OR. $(A:TECHCODE,3,1);
           =' ' .OR. $(A:TECHCODE,4,1)=' '
           @ 23,23 SAY 'ANALYST CODE CANNOT CONTAIN';
                 + ' BLANKS' + CHR(7)
           @ 10,45 GET A:TECHCODE
           READ
        ENDDO
        @ 23,23 SAY '                                      '
        STORE !(A:TECHCODE) TO A:TECHCODE

*****   VALIDATE FOR DUPLICATE USER ID

        USE D:TECHCODE INDEX D:TECH
        FIND &A:TECHCODE
        IF # <> 0
           @ 22,14 SAY 'RECORD CURRENTLY EXISTS ';
                 + '- STRIKE ANY KEY TO CONTINUE'
           WAIT
        ELSE
           @ 12,28 SAY 'ANALYST NAME     ' GET A:NAME
           READ
           SET CONSOLE OFF
           STORE T TO A:ENTERPSW

*****   PROMPT FOR USER PASSWORD AND VERIFICATION OF THE
*****   PASSWORD

           @ 14,28 SAY 'PASSWORD        '
           DO WHILE A:ENTERPSW
              @ 14,44 SAY ' '
              ACCEPT TO A:PASSWORD
              STORE '        ' TO A:VERIFY
              @ 16,28 SAY 'VERIFY PASSWORD '
              ACCEPT TO A:VERIFY
              IF A:PASSWORD <> A:VERIFY
                 @ 23,5 SAY 'VERIFICATION PASSWORD DOES ';
                       + 'NOT MATCH - REENTER PASSWORD';
                       + ' AND REVERIFY' + CHR(7)
                 STORE '        ' TO A:PASSWORD
              ELSE
                 STORE F TO A:ENTERPSW
              ENDIF
           ENDDO
           SET CONSOLE ON

*****   CREATE THE NEW ANALYST RECORD

           APPEND BLANK
           REPLACE TECHCODE WITH !(A:TECHCODE), NAME WITH;
```

```
             !(A:NAME), PSWD WITH A:PASSWORD
           USE
        ENDIF

*****   IF UPDATE ANALYST SELECTED

      CASE A:REPLY = '2'
        STORE '                          ' TO A:NAME
        STORE '      ' TO A:TECHCODE

*****   PROMPT FOR AND ACCEPT ANALYST CODE

        ERASE
        @ 6,15 SAY 'ENTER ANALYST CODE FOR RECORD TO BE';
                + ' UPDATED ' GET A:TECHCODE
        READ
        STORE !(A:TECHCODE) TO A:TECHCODE

*****   VALIDATE CODES EXISTENCE

        USE D:TECHCODE INDEX D:TECH
        FIND &A:TECHCODE
        IF # = 0
           @ 22,17 SAY 'RECORD NOT FOUND ';
                     + '- STRIKE ANY KEY TO CONTINUE'
           WAIT
        ELSE
           STORE T TO A:PROCESS

*****   IF MARKED FOR DELETION, SEE IF RECORD SHOULD BE
*****   REACTIVATED

           IF *
              STORE ' ' TO A:REPLY2
              @ 18,22 SAY 'RECORD HAS BEEN MARKED FOR';
                        + ' DELETION'
              @ 19,18 SAY 'DO YOU WANT THIS ANALYST ';
                        + 'REACTIVATED <Y OR N>'
              @ 21,40 GET A:REPLY2 PICTURE 'A'
              READ
              DO WHILE A:REPLY2<>'Y' .AND. A:REPLY2<>'N'
                 @ 23,31 SAY 'ENTER Y OR N ONLY' + CHR(7)
                 @ 21,40 GET A:REPLY2 PICTURE 'A'
                 READ
              ENDDO
              IF !(A:REPLY2) = 'Y'
                 RECALL
                 @ 18,22 SAY '                              ';
                           + '         '
                 @ 19,18 SAY '                              ';
                           + '                  '
                 @ 21,40 SAY ' '
              ELSE
                 STORE F TO A:PROCESS
              ENDIF
           ENDIF

*****   PROMPT FOR AND ACCEPT UPDATE INFORMATION

           DO WHILE A:PROCESS
              STORE NAME TO A:NAME
              @ 8,15 SAY 'ENTER NEW NAME DATA  ' GET NAME
              READ
              @ 21,20 SAY '1 - POST UPDATE INFORMATION';
                     + '          2 - EXIT'
              STORE ' ' TO A:REPLY2
              @ 23,40 GET A:REPLY2 PICTURE '9'
*****   ACCEPT UPDATE/EXIT OPTION SELECTION
```

```
              READ
              DO WHILE A:REPLY2 < '1' .OR. A:REPLY2 > '2'
                 @ 23,40 GET A:REPLY2 PICTURE '9'
                 READ
              ENDDO
              IF A:REPLY2 = '1'
                 REPLACE NAME WITH !(NAME)
              ELSE
                 REPLACE NAME WITH A:NAME
              ENDIF
              STORE F TO A:PROCESS
           ENDDO
           USE
        ENDIF

*****   IF DELETE OPTION SELECTED

     CASE A:REPLY = '3'
        STORE '                    ' TO A:NAME
        STORE '     ' TO A:TECHCODE

*****   PROMPT FOR AND ACCEPT ANALYST CODE

        ERASE
        @ 6,15 SAY 'ENTER ANALYST CODE FOR RECORD TO BE DELETED ';
              GET A:TECHCODE
        READ
        STORE !(A:TECHCODE) TO A:TECHCODE
        USE D:TECHCODE INDEX D:TECH
        FIND &A:TECHCODE
        IF # = 0
           @ 22,17 SAY 'RECORD NOT FOUND - STRIKE ANY KEY';
                     + ' TO CONTINUE'
           WAIT
        ELSE

*****   CHECK FOR ACTIVE RECORDS ASSIGNED

           IF ACTIVE>0 .OR. TRANSMIT>0 .OR. RESPOND>0
              @  9,21 SAY 'ACTIVE RECORDS EXIST FOR ';
                        + 'THIS ANALYST'
              @ 10,21 SAY 'ALL ACTIVE RECORDS MUST BE';
                        + ' REASSIGNED'
              @ 11,21 SAY '          PRIOR TO DELETION'
              WAIT
           ELSE

*****   INDICATE IF RECORD PREVIOUSLY DELETED

              IF *
                 @ 23,13 SAY 'RECORD PREVIOUSLY DELETED ';
                           + '- STRIKE ANY KEY TO CONTINUE'
                 WAIT
              ELSE

*****   PROVIDE OPTION TO DELETE OR EXIT

                 @ 8,32 SAY 'ANALYST ' + NAME
                 @ 17,20 SAY '1 - DELETE THIS ANALYST  ';
                           + '       2 - EXIT'
                 STORE ' ' TO A:REPLY2
                 @ 23,40 GET A:REPLY2 PICTURE '9'
                 READ
                 DO WHILE A:REPLY2 < '1' .OR. A:REPLY2 > '2'
                    @ 23,40 GET A:REPLY2 PICTURE '9'
                    READ
                 ENDDO
                 IF A:REPLY2 = '1'
                    DELETE
```

```
                  ENDIF
               ENDIF
            ENDIF
         ENDIF

*****  IF LIST OPTION

      CASE A:REPLY = '4'
         USE D:TECHCODE INDEX D:TECH
         SET DELETED ON
         ERASE
         DISPLAY ALL FIELD TECHCODE, NAME OFF
         ?
         ?
         ?
         ? '                       STRIKE ANY KEY TO CONTINUE'
         SET DELETED OFF
         WAIT
   ENDCASE
ENDDO

***** END OF PROGRAM
```

XXIV. PASSWORD FILE UPDATE MODULE

```
***********************************************************************
**                                                                   **
**   DATE: 15 JAN 1984                                               **
**   VERSION: 1.0                                                    **
**   MODULE NAME: PASS                                               **
**   MODULE PURPOSE: PASSWORD UPDATING                               **
**                                                                   **
**   MODULE INTERFACE DEFINITION                                     **
**      INPUTS: NONE                                                 **
**      OUTPUTS: NONE                                                **
**                                                                   **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                        **
**         ACCEPTS THE USER ID AS INPUT, REQUESTS THE                **
**         CURRENT PASSWORD, VALIDATES IT, AND REQUESTS              **
**         THE ENTRY AND VALIDATION OF THE NEW PASSWORD.             **
**         AN ILLEGAL USER ID OR AN ILLEGAL PASSWORD WILL            **
**         CAUSE THE PASSWORD UPDATE TO TERMINATE.                   **
**                                                                   **
**   SUPERORDINATE MODULES: UTILMENU                                 **
**   SUBORDINATE MODULES: NONE                                       **
**   AUTHOR: R. G. NICHOLS                                           **
**                                                                   **
***********************************************************************

*****  CLEAR SCREEN AND PROMPT FOR USER ID

ERASE
STORE '        ' TO P:PASSWORD
STORE '    ' TO P:TECHCODE
@ 6,21 SAY '***** PASSWORD UPDATE PROCESSING *****'
@ 9,24 SAY 'ENTER DESIRED ANALYST CODE   ' GET P:TECHCODE

*****  ACCEPT AND VALIDATE USER ID

READ
STORE !(P:TECHCODE) TO P:TECHCODE
USE D:TECHCODE INDEX D:TECH
FIND &P:TECHCODE
IF # = 0
   @ 22,14 SAY 'RECORD DOES NOT EXIST ';
            + '- STRIKE ANY KEY TO CONTINUE'+CHR(7)
   WAIT
ELSE
   SET CONSOLE OFF
   SET EXACT ON

*****  ACCEPT AND VALIDATE PASSWORD

   @ 11,24 SAY 'ENTER CURRENT PASSWORD '
   ACCEPT  TO P:PASSWORD
   IF P:PASSWORD = '        '
      SET CONSOLE ON
      RELEASE ALL LIKE P:*
      RETURN
   ENDIF
   STORE P:PASSWORD+'        ' TO P:PASSWORD
   IF $(P:PASSWORD,1,8) <> PSWD
      @ 22,8 SAY 'INVALID PASSWORD FOR ANALYST '+P:TECHCODE;
               + ' - STRIKE ANY KEY TO CONTINUE' + CHR(7)
      WAIT
   ELSE
```

```
      STORE T TO P:GETPASWD

*****  ACCEPT NEW PASSWORD AND VALIDATION OF NEW PASSWORD

      DO WHILE P:GETPASWD
         @ 13,24 SAY 'ENTER NEW PASSWORD     '
         ACCEPT TO P:PASSWORD
         @ 15,24 SAY 'VERIFY NEW PASSWORD    '
         ACCEPT TO P:VERIFYPW
         IF P:PASSWORD <> P:VERIFYPW
            @ 23,5 SAY 'VERIFICATION PASSWORD DOES NOT MATCH';
                    + '  - REENTER PASSWORD AND REVERIFY' + CHR(7)
         ELSE
            STORE F TO P:GETPASWD
         ENDIF
      ENDDO
      REPLACE PSWD WITH P:PASSWORD
      USE
   ENDIF
   SET EXACT OFF
   SET CONSOLE ON
ENDIF

*****  RELEASE LOCAL MEMORY VARIABLES AND RETURN TO
*****  CALLING PROGRAM

RELEASE ALL LIKE P:*
RETURN

***** END OF PROGRAM
```

XXV. DATA BASE RE-INDEX MODULE

```
***************************************************************
**                                                           **
**   DATE: 20 JANUARY 1984                                   **
**   VERSION: 1.0                                            **
**   MODULE NAME: UTIINDX                                    **
**   MODULE PURPOSE: RE-INDEX ALL INDEX FILES                **
**   MODULE INTERFACE DEFINITION                             **
**      INPUTS: C:WHO, C:JULIAN                              **
**      OUTPUTS: NONE                                        **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:                **
**                                                           **
**        A UTILITY FOR THE SUPERVISOR TO RECONSTITUTE       **
**        THE INDEX FILES WHEN THE SYSTEM DESTROYS THE       **
**        CURRENT INDEXES. AFTER ACCEPTANCE OF THE           **
**        SUPERVISOR'S CHOICE TO PROCEED, EACH INDEX FILE    **
**        IS DELETED AND THEN REBUILT USING THE DATA IN      **
**        ALL OF THE DATABASE FILES.  THIS TAKES A LONG      **
**        TIME TO PROCESS, AND CAN BE ACCOMPLISHED ONLY      **
**        WHEN IT IS THE ONLY PROGRAM RUNNING ON THE         **
**        QDR SYSTEM.                                        **
**                                                           **
**   SUPERORDINATE MODULES: UTILMENU                         **
**   SUBORDINATE MODULES: NONE                               **
**   AUTHOR: J.G. BOYNTON                                    **
**                                                           **
***************************************************************

*****  DELETE CURRENT INDICES

DELETE FILE D:OCASE1.NDX
DELETE FILE D:ONSN.NDX
DELETE FILE D:OCASE2.NDX
DELETE FILE D:CCASE1.NDX
DELETE FILE D:CNSN.NDX
DELETE FILE D:CCASE2.NDX

*****  BEGIN REINDEX OF FILES

USE D:OPEN1
INDEX ON CASE TO D:OCASE1
INDEX ON NSN TO D:ONSN

USE D:OPEN2
INDEX ON CASE TO D:OCASE2

USE D:CLCSE1
INDEX ON CASE TO D:CCASE1
INDEX ON NSN TO D:CNSN

USE D:CLCSE2
INDEX ON CASE TO D:CCASE2

USE D:TECHCODE
INDEX ON TECHCODE TO D:TECH

USE D:COG
INDEX ON COG TO D:COGS

USE D:WHEREDIS
INDEX ON CODE TO D:DISCODE
```

```
USE D:ADDRESS
INDEX ON IM TO D:IM

RETURN

***** END OF PROGRAM
```

XXVI. OPEN CASE REPORT

```
*************************************************************
**                                                         **
**   DATE: 5 JANUARY 1984                                  **
**   VERSION: 1.0                                          **
**   MODULE NAME: OCASERPT                                 **
**   MODULE PURPOSE: PROVIDE ANALYST WITH LISTING OF ALL   **
**                   OF HIS OPEN CASES IN THE DATA BASE.   **
**   MODULE INTERFACE DEFINITION                           **
**      INPUTS: C:WHO, C:JULIAN                            **
**      OUTPUTS: NONE                                      **
**   MODULE PROCESSING NARRATIVE DESCRIPTION:              **
**                                                         **
**        ALLOWS THE ANALYST TO CHOOSE BETWEEN RECEIVING   **
**        A LIST OF HIS CURRENTLY OPEN CASES OR TO RETURN  **
**        TO THE MAIN PROCESSING MENU. THE PROGRAM DOES A  **
**        SEQUENTIAL SEARCH OF THE DATA BASE TO IDENTIFY   **
**        THE APPROPRIATE CASES, AND LISTS THEM TO EITHER  **
**        THE SCREEN OR THE PRINTER. LIST SHOULD NOT BE    **
**        SENT TO THE PRINTER IF ANYONE ELSE WILL BE       **
**        USING IT BEFORE THE PROCESS IS COMPLETED.        **
**                                                         **
**   SUPERORDINATE MODULES: MENU1                          **
**   SUBORDINATE MODULES: NONE                             **
**   AUTHOR: J.G. BOYNTON                                  **
**                                                         **
*************************************************************
ERASE
STORE ' ' TO V:PRINT
TEXT




                       YOU MAY RECEIVE THE REPORT ON THE SCREEN OR

                                  AT THE PRINTER

                                  1 - SCREEN
                                  2 - PRINTER
                                  3 - EXIT



                             < ENTER YOUR CHOICE >
ENDTEXT
@ 22,35 SAY' ' GET V:PRINT
READ

IF V:PRINT = '1'
     ERASE
     USE D:OPEN1
     REPORT FORM OPENCASE FOR WHO = C:WHO
     ? 'PRESS ANY KEY TO CONTINUE'
     WAIT

ELSE
     IF V:PRINT = '2'
          ERASE
```

```
          USE D:OPEN1
          SET PRINT ON
          REPORT FORM OPENCASE FOR WHO = C:WHO
          EJECT
          SET PRINT OFF
          ? 'PRESS ANY KEY TO CONTINUE'
          WAIT
     ENDIF
ENDIF
RELEASE V:PRINT
RETURN

***** END OF PROGRAM
```

LIST OF REFERENCES

1. Carriger, M. D., _A System Analysis and Design For Updating the Internal Tracking of the Quality Deficiency Reporting System at the Navy's Fleet Material Support Office_, M. S. Thesis, Naval Postgraduate School, Monterey, Ca., 1983

2. Sommerville, I., _Software Engineering_, Addison-Wesley Publishers Limited, 1982

3. Parnas, D. L., "Designing Software for Ease of Extension and Contraction," _Tutorial on Software Design Techniques_, Third Edition, IEEE Computer Society, 1980

4. Pressman, R. S., _Software Engineering: A Practioner's Approach_, McGraw-Hill Book Company, 1982

BIBLIOGRAPHY

Freeman, Peter, The Context of Design, Tutorial on Software Design Techniques, Third Edition, IEEE Computer Society, 1980.

IBM, Technical Reference Manual, Version 2.02, Revised Edition, April 1983.

Navy Fleet Material Support Office, Defective Material Report Program Users Manual, FMSO Document No. F9333-I32-9103 UM-01, 15 June 1980.

Orchid Technology, PCnet: A Local Area Network For The IBM PC/XT, 1983.

Ratliff, Wayne, dBase II: Assembly Language Relational Database Management System, Ashton-Tate, 1982.

Shooman, Martin L., Software Engineering, Design, Reliability and Management, McGraw-Hill Book Company, 1983.

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